

JOHNS HOPKINS UNIVERSITY CIRCULARS

Published with the approbation of the Board of Trustees

VOL. IX.—No. 76.]

BALTIMORE, NOVEMBER, 1889.

[PRICE, 10 CENTS.

ACADEMIC STAFF, 1889-90.

DANIEL C. GILMAN, LL. D., *President of the University.*

A. B., Yale College, 1852, and A. M., 1855; LL. D., Harvard University, 1876, St. Johns College, 1876, Columbia College, 1887, Yale University, 1889, and University of North Carolina, 1889; Professor in Yale College, 1853-72; President of the University of California, 1872-75.

BASIL L. GILDERSLEEVE, PH. D., LL. D., *Professor of Greek.* 621 St. Paul St.

A. B., Princeton College, 1849, and A. M., 1852; Ph. D., University of Göttingen, 1853; LL. D., College of William and Mary, 1869, and Harvard University, 1886; Professor of Greek in the University of Virginia, 1856-76; Professor of Latin in the University of Virginia, 1861-66; D. C. L., University of the South, 1854; Hon. Member of the Cambridge Philological Society and of the Philological Syllogos of Constantinople; *Editor of the American Journal of Philology.*

EDWARD H. GRIFFIN, D. D., LL. D., *Professor of the History of Philosophy and Dean.* 23 Mt. Vernon Place, E.

A. B., Williams College, 1862, and A. M., 1865; Union Theological Seminary, New York, 1867; D. D., Amherst College, 1880; LL. D., Princeton College, 1888; Professor of Latin in Williams College, 1872-81, Professor of Rhetoric, 1881-86, and Mark Hopkins Professor of Intellectual and Moral Philosophy, 1886-89.

PAUL HAUPT, PH. D., *Professor of the Semitic Languages.* 2109 Oak St.

Görlitz Gymnasium, Görlitz, Germany; Ph. D., University of Leipzig, 1873; *Privat-docent* in the University of Göttingen, 1880, and Professor of Assyriology in the same, 1883; Honorary Curator of the collection of Oriental Antiquities in the U. S. National Museum, Washington, D. C.; *Associate Editor of The Assyriological Library, of Hebraica, and of Contributions to Assyriology and Comparative Semitic Philology.*

HENRY M. HURD, A. M., M. D., *Professor of Psychiatry.* Johns Hopkins Hospital.

A. B., University of Michigan, 1863, and A. M., 1870; M. D., University of Michigan, 1866; Superintendent of the Eastern Michigan Asylum, 1878-89; *Superintendent of the Johns Hopkins Hospital.*

H. NEWELL MARTIN, DR. SC., M. D., F. R. S., *Professor of Biology, and Director of the Biological Laboratory.* 925 St. Paul St.

M. B., University of London, 1871, and Dr. Sc., 1872; A. B., University of Cambridge, 1874, and A. M., 1877; late Fellow, and Lecturer on Natural History in Christ College, Cambridge; Fellow of University College, London; M. D. (Hon.), University of Georgia, 1881; F. R. S., London; *Editor of the Studies from the Biological Laboratory.*

SIMON NEWCOMB, PH. D., LL. D., *Professor of Mathematics and Astronomy.* 1620 P St., N. W. Washington.

B. S., Harvard University, 1858; LL. D., Columbian University, 1874, Yale, 1875, Harvard, 1884, and Columbia, 1887; Ph. D. (Hon.), University of Leyden, 1875; Ph. D. (Hon.), University of Heidelberg, 1886; Senior Professor of Mathematics, U. S. Navy; Superintendent of the American Ephemeris and Nautical Almanac, Washington; Associate, Royal Astronomical Society, 1872; Corresponding Member, Instituto de France, 1874; Foreign Member of the Royal Society of London and Member of the Academies in Berlin, St. Petersburg, Munich, Stockholm, Amsterdam, etc.; *Editor of the American Journal of Mathematics.*

WILLIAM OSLER, M. D., *Professor of the Principles and Practice of Medicine.* 209 W. Monument St.

M. D., McGill University, 1872; F. R. C. P., London; Professor of the Institutes of Medicine, McGill University, Montreal, 1874-1884; Professor of Clinical Medicine, University of Pennsylvania, 1884-1888; *Physician to the Johns Hopkins Hospital.*

IRA REMSEN, M. D., PH. D., *Professor of Chemistry, and Director of the Chemical Laboratory.* 12 E. Biddle St.

College of the City of New York; M. D., College of Physicians and Surgeons, N. Y., 1867; Ph. D., University of Göttingen, 1870; Professor of Chemistry in Williams College, 1872-76, and previously Assistant in Chemistry in the University of Tübingen; *Editor of the American Chemical Journal.*

HENRY A. ROWLAND, PH. D., *Professor of Physics, and Director of the Physical Laboratory.* 412 Cathedral St.

C. E., Rensselaer Polytechnic Institute, Troy, 1870; Assistant Professor in the same, 1872-75; Ph. D. (Hon.), Johns Hopkins University, 1889; Honorary Member of the Physical Society of London; Corresponding Member of the British Association; Member of the Cambridge (Eng.) Philosophical Society.

J. J. SYLVESTER, F. R. S., D. C. L., (now Savilian Professor of Geometry in the University of Oxford) *Professor Emeritus of Mathematics.*

A. M., University of Cambridge; F. R. S., London and Edinburgh; Corresponding Member of the Institute of France; Member of the Academy of Sciences in Berlin, Göttingen, Naples, Milan, St. Petersburg, etc.; LL. D., University of Dublin, University of Edinburgh; D. C. L., University of Oxford; Honorary Fellow of St. John's College, Cambridge; late Professor of Mathematics in the Royal Military Academy, Woolwich; Copley Medalist, Royal Society, London, 1880; Editor of the American Journal of Mathematics, 1878-84.

WILLIAM H. WELCH, M. D., *Professor of Pathology.* 506 Cathedral St.

A. B., Yale College, 1870; M. D., College of Physicians and Surgeons (N. Y.), 1875; late Professor of Pathological Anatomy and General Pathology in the Bellevue Hospital Medical College, N. Y.

JOHN S. BILLINGS, M. D., LL. D., *Lecturer on Municipal Hygiene.* Washington.

A. B., Oxford College (Ohio), 1857, and A. M., 1860; M. D., University of Cincinnati, 1860; LL. D., University of Edinburgh, 1884, Harvard University, 1886; Surgeon, U. S. Army, and Librarian of the Surgeon-General's Office.

HERBERT B. ADAMS, PH. D., *Associate Professor of History.* 1025 Cathedral St.

A. B., Amherst College, 1872; Ph. D., University of Heidelberg, 1876; Fellow of the Johns Hopkins University, 1876-78; *Editor of the Studies in Historical and Political Science.*

MAURICE BLOOMFIELD, PH. D., *Associate Professor of Sanskrit and Comparative Philology.* 861 Park Av.

A. M., Furman University, 1877; Fellow, Johns Hopkins University, 1878-79, and Ph. D., 1879.

WILLIAM K. BROOKS, PH. D., *Associate Professor of Animal Morphology, and Director of the Chesapeake Zoological Laboratory.* Lake Roland.

A. B., Williams College, 1870; Ph. D., Harvard University, 1875; *Associate Editor of the Studies from the Biological Laboratory.*

WILLIAM T. COUNCILMAN, M. D., *Associate Professor of Anatomy.* Johns Hopkins Hospital.

M. D., University of Maryland, 1878.

THOMAS CRAIG, PH. D., *Associate Professor of Mathematics.* 1822 St. Paul St.

C. E., Lafayette College, 1875; Fellow, Johns Hopkins University, 1876-79, and Ph. D., 1878; *Associate Editor of the American Journal of Mathematics.*

LOUIS DUNCAN, PH. D., *Associate Professor of Electricity.* 139 E. North Av.

U. S. Naval Academy, 1880; Ensign, U. S. Navy, 1883-86; Ph. D., Johns Hopkins University, 1885.

A. MARSHALL ELLIOTT, PH. D., *Associate Professor of the Romance Languages.* 935 N. Calvert St.

A. B., Haverford College, 1866, and A. M., 1878; A. B., Harvard University, 1868; Ph. D., Princeton College, 1877.

RICHARD T. ELY, PH. D., *Associate Professor of Political Economy.* 118 E. Fifth St.

A. B., Columbia College, 1876, and A. M., 1879; Fellow of Columbia College, 1876-79; Ph. D., University of Heidelberg, 1879.

GEORGE HENRY EMMOTT, A. M., *Associate Professor of Logic, and Lecturer on Roman Law.* 304 W. Lanvale St.

A. B. and LL. B., University of Cambridge, (Eng.), 1879, and A. M., 1882; late Associate and Lecturer on Roman Law, etc. in Victoria University (Eng.).

FABIAN FRANKLIN, PH. D., *Associate Professor of Mathematics.* 1400 Linden Av.

Ph. B., Columbian University, 1869; Fellow, Johns Hopkins University, 1877-79, and Ph. D., 1889.

WILLIAM S. HALSTED, M. D., *Associate Professor of Surgery.* 508 Cathedral St.

A. B., Yale College, 1874; M. D., College of Physicians and Surgeons (New York), 1877; late attending Surgeon to the Presbyterian and Bellevue Hospitals, New York; *Chief of the Dispensary and Acting Surgeon to the Johns Hopkins Hospital.*

HOWARD A. KELLY, A. M., M. D., *Associate Professor of Gynecology and Obstetrics.* 119 N. Broadway.

A. B., University of Pennsylvania, 1877, and M. D., 1882; Associate Professor of Obstetrics, University of Pennsylvania, 1888-89; *Gynecologist to the Johns Hopkins Hospital.*

ARTHUR L. KIMBALL, Ph. D., *Associate Professor of Physics.* 1521 John St.
A. B., Princeton College, 1881; Fellow in Science, Princeton College, 1881-82; Fellow, Johns Hopkins University, 1882-83, and Ph. D., 1884.

HARMON N. MORSE, Ph. D., *Associate Professor of Chemistry, and Sub-Director of the Chemical Laboratory.* 1922 Madison Av.

A. B., Amherst College, 1873; Ph. D., University of Göttingen, 1875; Instructor in Chemistry at Amherst College, 1875-76.

EDWARD H. SPIEKER, Ph. D., *Associate Professor of Greek and Latin.* 624 N. Fremont St.
A. B., Johns Hopkins University, 1879, Fellow, 1880-82, and Ph. D., 1882.

MINTON WARREN, Ph. D., *Associate Professor of Latin.* 1927 Park Av.
A. B., Tufts College, 1870; Ph. D., University of Strassburg, 1879.

GEORGE H. WILLIAMS, Ph. D., *Associate Professor of Mineralogy.* The Westover.
A. B., Amherst College, 1878; Ph. D., University of Heidelberg, 1882.

HENRY WOOD, Ph. D., *Associate Professor of German.* 2126 Oak St.
A. B., Haverford College, 1869; Ph. D., University of Leipsic, 1879.

ETHAN A. ANDREWS, Ph. D., *Associate in Biology.* 930 Madison Av.
Ph. B., Yale College, 1881; Fellow, Johns Hopkins University, 1884-6, and Ph. D., 1887.

JAMES W. BRIGHT, Ph. D., *Associate in English.* 1009 Linden Av.
A. B., Lafayette College, 1877; Fellow, Johns Hopkins University, 1880-82, and Ph. D., 1882; Instructor in Anglo-Saxon and English Literature, Cornell University, 1885.

WILLIAM HAND BROWNE, M. D., *Librarian, and Associate in English.* 2 E. Huntingdon Av.
M. D., University of Maryland, 1850.

WILLIAM B. CLARK, Ph. D., *Associate in Palaeontology.* 610 N. Howard St.
A. B., Amherst College, 1884; Ph. D., University of Munich, 1887.

EDWARD M. HARTWELL, M. D., Ph. D., *Associate in Physical Training, and Director of the Gymnasium.* 103 W. Monument St.
A. B., Amherst College, 1873, and A. M., 1876; Fellow, Johns Hopkins University, 1879-81, and Ph. D., 1881; M. D., Miami Medical College, 1882.

WILLIAM F. C. HASSON, *Associate in Applied Mechanics.* 2005 Eutaw Place.
U. S. Naval Academy, 1880; Assistant Engineer, U. S. Navy.

MARION D. LEARNED, Ph. D., *Associate in German.* 827 N. Eutaw St.
A. B., Dickinson College, 1880, and A. M., 1883; Fellow, Johns Hopkins University, 1885-86, and Ph. D., 1887.

EDWARD RENOUF, Ph. D., *Associate in Chemistry.* 1128 Druid Hill Av.
Ph. D., University of Freiburg, 1880; Assistant in Chemistry in the University of Munich, 1880-85.

HENRY A. TODD, Ph. D., *Associate in the Romance Languages.* 718 N. Howard St.
A. B., Princeton College, 1876; Fellow and Tutor in Modern Languages in Princeton College, 1876-80; Ph. D., Johns Hopkins University, 1885.

PHILIP R. UHLER, *Associate in Natural History.* 254 W. Hoffman St.
Librarian of the Peabody Institute.

FREDERICK M. WARREN, Ph. D., *Associate in French and German.* 1217 Bolton St.
A. B., Amherst College, 1880; Ph. D., Johns Hopkins University, 1887.

ALEXANDER C. ABBOTT, M. D., *Assistant in Bacteriology and Hygiene.* Johns Hopkins Hospital.
M. D., University of Maryland, 1884.

CYRUS ADLER, Ph. D., *Instructor in the Semitic Languages.* 2109 Oak St.

A. B., University of Pennsylvania, 1883, and A. M., 1886; Fellow, Johns Hopkins University, 1885-87, and Ph. D., 1887; Honorary Assistant-Curator of the collection of Oriental Antiquities in the U. S. National Museum, Washington, D. C.

WILLIAM S. ALDRICH, M. E., *Instructor in Drawing.* 1120 McCulloh St.
U. S. Naval Academy, 1883; M. E., Stevens Institute of Technology, 1884; Instructor in Drawing, Philadelphia Manual Training School, 1887-89.

JOSEPH S. AMES, A. B., *Assistant in Physics.* 206 W. Monument St.
A. B., Johns Hopkins University, 1886, and Fellow, 1887-8.

CHARLES A. BORST, A. M., *Assistant in Astronomy.* 708 N. Howard St.
A. B., Hamilton College, 1881, and A. M., 1884; Assistant in the Litchfield Observatory, 1881-87, and Assistant Professor of Astronomy, Hamilton College, 1887-88.

CHARLES H. CHAPMAN, A. B., *Instructor in Mathematics.* 708 N. Howard St.
A. B., Johns Hopkins University, 1888.

GEORGE W. EDMOND, A. B., *Assistant in Chemistry.* 1922 Madison Av.
A. B., Johns Hopkins University, 1884.

CHARLES H. HASKINS, A. B., *Instructor in History.* 909 McCulloh St.
A. B., Johns Hopkins University, 1887.

GUSTAV A. LIEBIG, JR., Ph. D., *Assistant in Electricity.* Catonsville.
A. B., Johns Hopkins University, 1882, Ph. D., 1885, and Fellow, 1883-85.

CHARLES L. SMITH, Ph. D., *Instructor in History.* 508 Park Av.
S. B., Wake Forest College, 1884; Fellow, Johns Hopkins University, 1887-88, and Ph. D., 1889; General Secretary, Charity Organization Society, Baltimore.

KIRBY W. SMITH, Ph. D., *Instructor in Latin.* 2015 Oak St.
A. B., University of Vermont, 1884; Ph. D., Johns Hopkins University, 1889.

ARTHUR C. WIGHTMAN, Ph. D., *Senior Demonstrator of Physiology.* 428 N. Pine St.
A. B., Wofford College, 1879; Fellow, Johns Hopkins University, 1887-88, and Ph. D., 1889.

Readers for the current year.

WALTER B. SCAIFE, LL. B., University of Michigan, 1880; A. B., Johns Hopkins University, 1887; Ph. D., University of Vienna, 1887. Lectures on *Historical Geography.*

1019 Cathedral St.

ALBERT SHAW, Ph. D., Johns Hopkins University, 1884. Nine lectures on *Municipal Government.*

JOHN M. VINCENT, A. B., Oberlin College, 1883, and A. M., 1888. Six lectures on *Libraries and Literary Methods.*

1303 John St.

WOODROW WILSON, Ph. D., Johns Hopkins University, 1886; LL. D., Wake Forest College, 1887; Professor of History, Wesleyan University, Conn. Lectures during the second half-year on *Administration.*

Additional Assistants for the current year.

The following names are those of graduate students who render more or less service to the University.

E. C. APPEGARTH, A. B.—*Biology.*
W. M. ARNOLD, Ph. D.—*New Testament Greek.*
F. B. CULVER, A. B.—*Latin.*
G. P. DREYER, A. B.—*Biology.*
E. W. FAX, A. M.—*Sanskrit.*
H. T. FERNALD, S. B.—*Biology.*
H. W. MAGOUN, A. M.—*Gymnasium.*
L. M. PASSANO, A. B.—*Mathematics.*
W. W. RANDALL, A. B.—*Chemistry.*
LÉON IBN ABI SULEIMÂN.—*Arabic Conversation.*

UNIVERSITY ROOMS AND CONSULTATION HOURS OF THE ACADEMIC STAFF.

Name.	University Room.	Consultation Hours.*	Residence.	Name.	University Room.	Consultation Hours.*	Residence.
Abbott, A. C.	Pathological Laboratory.	—	J. H. Hospital.	Haskins, C. H.	Historical Library.	11 a. m.	909 McCulloh.
Adams, H. B.	Historical Library.	9-10 a. m.	1025 Cathedral.	Hasson, W. F. C.	Physical Laboratory, 32.	10-11 a. m.	2005 Eutaw Pl.
Adler, C.	Front Building, 14.	Tu., Th., 1 p. m.	2109 Oak.	Haupt, P.	Front Building, 14.	9-10 a. m.	2109 Oak.
Aldrich, W. S.	Front Building, 18.	M., W., F., 10-11 a. m.	1120 McCulloh.	Hurd, H. M.	J. H. Hospital.	—	J. H. Hospital.
Ames, J. S.	Physical Laboratory.	2-3 p. m.	206 W. Monument.	Kelly, H. A.	J. H. Hospital.	—	119 N. Broadway.
Andrews, E. A.	Biological Laboratory, 26.	12 m.-1 p. m.	930 Madison Av.	Kimball, A. L.	Physical Laboratory, 30.	11-12 a. m.	1521 John.
Bloomfield, M.	Front Building, 13.	4 p. m.	861 Park Ave.	Learned, M. D.	307 W. Monument.	M., Tu., Th., F., 12 m.	827 N. Eutaw.
Borst, C. A.	Physical Laboratory, 25.	12 m.	708 N. Howard.	Liebig, G. A.	Physical Laboratory.	11 a. m.-3 p. m.	Catonsville.
Bright, J. W.	513 W. Monument.	M., W., Th., 1 p. m.	1009 Linden Av.	Martin, H. N.	Biological Laboratory, 29.	12 m.	925 St. Paul.
Brooks, W. K.	Biological Laboratory, 26.	11 a. m.-12 m.	Lake Roland.	Morse, H. N.	Chemical Laboratory, 70.	11 a. m.-12 m.	1922 Madison Av.
Browne, W. H.	Library.	9 a. m.-5 p. m.	2 E. Huntingdon Av.	Murray, N.	Annex, Front Building.	9 a. m.-1 p. m.	621 St. Paul.
Chapman, C. H.	Physical Laboratory.	12 m.-1 p. m.	708 N. Howard.	Newcomb, S.	Physical Laboratory, 25.	Tu., Th., 2-3 p. m.	Wash. (1620 P St.).
Clark, W. B.	610 N. Howard.	9 a. m.	610 N. Howard.	Osler, W.	J. H. Hospital.	—	209 W. Monument.
Councilman, W. T.	Pathological Laboratory.	9-10 a. m.	J. H. Hospital.	Remsen, I.	Chemical Laboratory, 12.	10 a. m.	12 E. Biddle.
Craig, T.	Physical Laboratory, 37.	12 m.	1822 St. Paul.	Renouf, E.	Chemical Laboratory, 2.	10-11 a. m.	1128 Druid Hill Av.
Duncan, L.	Physical Laboratory, 22.	10 a. m.	133 E. North Av.	Rowland, H. A.	Physical Laboratory, 20.	9 a. m.	412 Cathedral.
Edmond, G. W.	Chemical Laboratory.	4 p. m.	1922 Madison Av.	Smith, C. L.	Historical Library.	12 m.	508 Park Av.
Elliott, A. M.	305 W. Monument.	12 m.	935 N. Calvert.	Smith, K. W.	Front Building, 3.	11 a. m.-12 m.	2015 Oak.
Ely, R. T.	Historical Library.	W., Th., 10 a. m.	118 E. Fifth.	Spieker, E. H.	Front Building, 4.	Tu., W., Th., 10.30 a. m.	624 N. Fremont.
Emmott, G. H.	Front Building, 5.	11 a. m.-12 m.	304 W. Lanvale.	Todd, H. A.	313 W. Monument.	9.50 a. m.	718 N. Howard.
Franklin, F.	Physical Laboratory, 31.	2-3 p. m.	1400 Linden Av.	Warren, F. M.	313 W. Monument.	12.50 p. m.	1217 Bolton.
Giddersleeve, B. L.	Front Building, 8.	11 a. m.	621 St. Paul.	Warren, M.	Front Building, 17.	12 m.-12.40 p. m.	1927 Park Av.
Griffin, E. H.	Hopkins Hall Annex.	11 a. m.-12.30 p. m.	23 McVernon Pl. E.	Welch, W. H.	Pathological Laboratory.	3-5 p. m.	506 Cathedral.
Halsted, W. S.	J. H. Hospital.	—	508 Cathedral.	Wightman, A. C.	Biological Laboratory, 11.	9 a. m.	428 N. Pine.
Hartwell, E. M.	Gymnasium.	5-6 p. m.	103 W. Monument.	Williams, G. H.	610 N. Howard.	M., Tu., W., 10 a. m.	The Westover.
				Wood, H.	307 W. Monument.	12 m.	2126 Oak.

* Saturdays, Sundays, and holidays excepted.

CHECK LIST OF STUDENTS.

[(F) Fellows; (F by C) Fellows by Courtesy; *Students not connected with the University in the last academic year.]

GRADUATE STUDENTS.

NAME.	RESIDENCE.	DEGREE.	FROM WHAT INSTITUTION.	PRINCIPAL SUBJECTS.	CITY ADDRESS.
ALLEN, EUGENE T.	Athol, Mass.	A. B.	Amherst.	<i>Chemistry.</i>	1123 McCulloh.
APPLEGARTH, EDWARD C. (F)	Baltimore.	A. B.	J. H. U.	<i>Biology.</i>	1511 W. Fayette.
ARNOLT, WILLIAM M. (F by C)	Baltimore.	Ph. D.	J. H. U.	<i>Greek.</i>	1019 McCulloh.
BADEN, WILLIAM W.	Baltimore.	A. B.	J. H. U.	<i>Greek and Sanskrit.</i>	1110 McCulloh.
BAGBY, ALFRED, JR.	Stevensville, Va.	A. B.	Richmond.	<i>Latin and Sanskrit.</i>	832 N. Eutaw.
BELDEN, HENRY M.*	Springdale, Conn.	A. B.	Trinity (Conn.)	<i>English.</i>	309 Hoffman.
BELL, WILLIAM C.*	Antreville, S. C.	A. B.	Erskine. (S. C.)	<i>Latin and English.</i>	825 Linden Av.
BERKLEY, HENRY J.*	Baltimore.	M. D.	Univ. of Maryland.	<i>Pathology.</i>	203 W. Lanvale.
BIBBINS, ARTHUR E.	Hanover, Mich.	Ph. B.	Albion.	<i>Biology.</i>	
BIGELOW, ROBERT P.	Washington, D. C.	S. B.	Harvard.		206 W. Monnment.
BIGNELL, WILLIAM.	Randolph, N. Y.	A. B.	Allegheny.	<i>German and English.</i>	905 McCulloh.
BLACK, JAMES WILLIAM.	Baltimore.	A. B.	J. H. U.	<i>History and Politics.</i>	122 W. Lanvale.
BLACKSHEAR, CHARLES C.	Macon, Ga.	A. B.	Mercer Univ.	<i>Chemistry.</i>	309 W. Hoffman.
BLACHSTEIN, ARTHUR G. (F)*	New York City.	M. D.	Univ. of Leipsic.	<i>Pathology.</i>	Hotel Shirley.
BLISS, WILLIAM J. A.	Washington, D. C.	A. B.	Harvard.	<i>Electricity.</i>	702 Cathedral.
BOWEN, EDWIN W.*	Ashland, Va.	A. M.	Randolph-Macon.	<i>Latin.</i>	851 N. Howard.
BRIGHAM, C. PLINY.	Baltimore.	A. B.	J. H. U.	<i>Chemistry and Mineralogy.</i>	406 Pressman.
BROMWELL, WILLIAM.	Port Deposit.	A. B.	J. H. U.	<i>Chemistry.</i>	210 McMechen.
BROWN, FRANCIS E.*	Baltimore.	A. B.	Georgetown. (D. C.)	<i>Biology and Chemistry.</i>	750 W. Lexington.
BROWNE, ARTHUR L.	Baltimore.	A. B.	J. H. U.	<i>Chemistry.</i>	2 E. Huntingdon Av.
BRUCE, JAMES D.*	Cole's Ferry, Va.	A. M.	Univ. of Virginia.	<i>English.</i>	1309 N. Calvert.
BULLARD, FRANCIS.*	Boston, Mass.	A. B.	Harvard.	<i>History.</i>	718 N. Howard.
CANFIELD, WILLIAM B.	Baltimore.	M. D.	Univ. of Maryland.	<i>Pathology.</i>	1010 N. Charles.
CARROLL, A. MITCHELL.*	Asheville, N. C.	A. M.	Richmond.	<i>Greek and Latin.</i>	832 N. Eutaw.
CARY, AUSTIN.	East Machias, Me.	A. B.	Bowdoin.	<i>Biology.</i>	1029 N. Eutaw.
CARY, REV. NORMAN W.	Fargo, Dak.	A. M.	Yale.	<i>Chemistry and Physics.</i>	1120 McCulloh.
CASANOWICZ, IMMANUEL M.	Montclair, N. J.		Univ. of Basle.	<i>Oriental Languages, etc.</i>	1230 McCulloh.
CHISOLEM, FRANCIS M.*	Baltimore.	M. D.	Univ. of Maryland.	<i>Pathology.</i>	114 W. Franklin.
CLARK, HENRY F.	New York City.	A. B.	Wesleyan. (Conn.)	<i>Chemistry.</i>	17 E. Second.
COATES, CHARLES E.*	Baltimore.	A. B.	J. H. U.	<i>Chemistry.</i>	1000 Cathedral.
COMMONS, JOHN R.	Winchester, Ind.	A. B.	Oberlin.	<i>History and Politics.</i>	1203 Park Av.
CONKLIN, EDWIN G.	Delaware, O.	A. M.	Ohio Wesleyan.	<i>Biology and Geology.</i>	17 E. Second.
CULVER, FRANK B.	Baltimore.	A. B.	J. H. U.	<i>Greek and Latin.</i>	146 N. Broadway.
CUTLER, U. WALDO.*	Worcester, Mass.	B. S.	Worcester Polytechnic.	<i>German, etc.</i>	1120 McCulloh.
DE ROODE, R. J. J., JR. (F)	Lexington, Ky.	M. S.	Kentucky State.	<i>Chemistry.</i>	1024 McCulloh.
DEVRIES, WILLIAM L.	Baltimore.	A. B.	J. H. U.	<i>Greek.</i>	804 Cathedral.
DOWNES, REV. HOWARD F.	Laurel.			<i>Semitic Languages.</i>	Laurel.
DREYER, GEORGE P. (F)	Baltimore.	A. B.	J. H. U.	<i>Biology.</i>	523 S. Broadway.
EARLE, SAMUEL T.	Baltimore.	M. D.	Univ. of Maryland.	<i>Pathology.</i>	1431 Linden Av.
EBELING, HERMANN L. (F)	Catonsville.	A. B.	J. H. U.	<i>Greek and Latin.</i>	Catonsville.
ECKELS, WILLIAM A.*	Carlisle, Pa.	A. M.	Dickinson.	<i>Greek.</i>	210 McMechen.
EDES, RICHARD E.	Washington, D. C.	A. B.	J. H. U.	<i>Biology.</i>	1203 Bolton.
EDWARDS, CHARLES G.*	Baltimore.	S. B.	St. John's. (Md.)	<i>Electricity.</i>	15 N. Calhoun.
EICHELBERGER, W. S. (F by C)	Woodberry.	A. B.	J. H. U.	<i>Astronomy.</i>	301 Falls Road.
ELDEN, WALLACE S.*	Waterville, Me.	A. B.	Bowdoin.	<i>Latin.</i>	1019 Linden Av.
EPES, JOHN D.	Blackstone, Va.	A. B.	Randolph-Macon.	<i>English and History.</i>	
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CHESNUT, W. CALVIN.*	Baltimore.	E. M. Lamb.	<i>Adams.</i>	VI.	1222 N. Charles.
COHEN, ABRAHAM.	Baltimore.	Balt. City Coll.	<i>Franklin.</i>	II.	1412 Linden Av.
CONE, SIDNEY M.	Baltimore.	W. S. Marston.	<i>Martin.</i>	III.	1607 Eutaw Place.
COOK, VERNON.	Baltimore.	Balt. City Coll.	<i>Spieker.</i>	I.	2027 Eutaw Place.

NAME.	RESIDENCE.	SCHOOL OR INSTRUCTOR.	ADVISER.	GROUP.	CITY ADDRESS.
COOKE, HARRY W.	Baltimore.	E. M. Lamb.	Adams.	VI.	914 N. Charles.
DAVIS, J. EDWIN.*	Baltimore.	Balt. City Coll.	Adams.	VI.	950 Harlem Av.
DEMBITZ, ARTHUR A.	Louisville, Ky.	Louisville High Sch.	Spieker.	I.	30 Parkin.
DETWILER, AUGUSTUS K.	Omaha, Neb.	Omaha High Sch.	Spieker.	I.	716 N. Charles.
DORR, L. BRADLEY.	Buffalo, N. Y.	Buffalo High Sch.	Martin.	III.	832 N. Eutaw.
FAUST, EDWIN S.	Baltimore.	E. Deichmann.	Martin.	III.	1425 W. Lombard.
FLOOD, NED A.	Meadville, Pa.	Allegheny Coll.	Adams.	VI.	1217 Bolton.
GALLAWAY, WILLIAM F.	Baltimore.	Balt. City Coll.	Spieker.	I.	400 N. Greene.
GARRISON, FIELDINO H.	Washington, D. C.	Washington High Sch.	Martin.	III.	18 E. Franklin.
GRAY, GEORGE W.	Brooklyn.	A. W. Wright.	Morse.	IV.	Brooklyn, M'd.
GREENBAUM, LEON.*	Baltimore.	Balt. City Coll.	Adams.	VI.	730 W. Lexington.
GUGGENHEIMER, SAMUEL H.	Baltimore.	Balt. City Coll.	Adams.	VI.	1737 Park Av.
GUY, D. DORSEY.	Baltimore.	W. S. Marston.	Adams.	VI.	3 W. Preston.
HARRY, STEPHEN C.	Northbrook, Pa.	Bucknell Univ.	Martin.	III.	851 N. Howard.
HOLLANDER, JACOB H.	Baltimore.	W. S. Marston.	Adams.	VI.	212 N. Carey.
HOWARD, CHARLES MCH.	Baltimore.	Balt. City Coll.	Franklin.	II.	919 Cathedral.
JOHNSON, CHARLES W.	Baltimore.	W. S. Marston.	Spieker.	I.	32 E. Preston.
JOHNSON, THEODORE W.*	Baltimore.	W. S. Marston.	Spieker.	I.	32 E. Preston.
JOHNSTON, JAMES C.	Louisville, Ky.	Allmond's Univ. Sch.	Martin.	III.	1529 Eutaw Place.
KEATING, HENRY W.	Centreville.	W. S. Marston.	Spieker.	I.	906 St. Paul.
KEECH, E. PARKIN.	Baltimore.	Balt. City Coll.	Adams.	VI.	1014 Cathedral.
KNOWER, HENRY MCE.	Baltimore.	G. G. Carey.	Martin.	III.	Ft. McHenry.
KNOWER, WILLIAM.	Baltimore.	G. G. Carey.	Adams.	VI.	Ft. McHenry.
LANIER, BERWICK B.	Baltimore.	W. S. Marston.	Martin.	III.	27 W. Chase.
LATANE, JOHN H.*	Baltimore.	Balt. City Coll.	Spieker.	I.	1230 Lafayette Av.
LAUCHHEIMER, SYLVAN H.	Baltimore.	Balt. City Coll.	Adams.	VI.	706 W. Lombard.
LINTHICUM, G. MILTON.*	Linthicum's.	St. John's Coll.	Renouf.	III.	Linthicum's.
LOTHROP, EARL P.	Buffalo, N. Y.	Heathcote Sch.	Renouf.	III.	832 N. Eutaw.
MAGRUDER, HUGH S.	Baltimore.	E. M. Lamb.	Spieker.	I.	1107 St. Paul.
MARDEN, TILGHMAN B.	Baltimore.	E. Deichmann.	Martin.	III.	1218 W. Lexington.
MITCHELL, JAMES F.	Baltimore.	Belair Acad.	Adams.	VI.	1013 Cathedral.
MORRISON, GEORGE C.	Baltimore.	G. G. Carey.	Spieker.	I.	Blind Asylum.
OEHM, ARTHUR A.	Baltimore.	A. W. Wright.	Franklin.	V.	221 Hanover.
OPPENHEIMER, ARTHUR R.	Baltimore.	Balt. City Coll.	Martin.	III.	523 N. Carrollton Ave.
PEPPLER, CHARLES W.*	Baltimore.	Balt. City Coll.	Spieker.	I.	134 Penna. Av. (Ext.)
POWELL, LYMAN P.	Baltimore.	Wilm. Conference Acad.	Adams.	VI.	1210 Druid Hill Av.
RANDOLPH, ALFRED M., Jr.	Richmond, Va.	J. P. McGuire.	Adams.	VI.	211 W. Madison.
SCHENCK, CHARLES C.*	Baltimore.	H. W. Luckett.	Franklin.	II.	1007 St. Paul.
SMILEY, JAMES L.	Baltimore.	Balt. City Coll.	Spieker.	I.	1200 Mosher.
SMITH, SAMUEL K.	Lutherville.	Private Instr.	Adams.	VI.	Calvert and Fifth.
SNOWDEN, S. GUY.	Baltimore.	W. S. Marston.	Griffin.	I.	1501 Entaw Place.
STERN, LEOPOLD.*	Baltimore.	Balt. City Coll.	Renouf.	III.	315 N. Gay.
STEVENS, DANIEL G., Jr.	Woodberry.	Balt. City Coll.	Spieker.	I.	Woodberry.
STEWART, C. MORTON, JR.*	Baltimore.	Pension Olivier, Lausanne.	Adams.	VI.	329 Dolphin.
STOKES, J. ERNEST.	Govanstown.	W. S. Marston.	Martin.	III.	Govanstown.
STRAUS, ISAAC L.	Baltimore.	Balt. City Coll.	Adams.	VI.	1414 Bolton.
STRAUSS, MORDECAI.	Wilkesbarre.	Harry Hillman Acad.	Morse.	IV.	823 Hollins.
SYNINGTON, W. STUART, Jr.	Baltimore.	C. Maupin.	Todd.	VII.	15 W. First.
TURNER, ARTHUR B.*	Baltimore.	E. M. Lamb.	Franklin.	II.	1304 John.
TURNER, HAROLD J.	Baltimore.	E. M. Lamb.	Franklin.	II.	1304 John.
VEA, M. M. JOHNSON.*	Stoughton, Wis.	Beloit College.	Martin.	III.	1021 Linden Av.
WAIDNER, CHARLES W.*	Baltimore.	E. M. Lamb.	Wood.	IV.	1445 N. Mount.
WATTS, CHARLES S.	Baltimore.	G. G. Carey.	Adams.	VI.	P. O. Station B.
WEST, CHARLES J.*	Savannah, Ga.	C. W. Bain.	Todd.	VII.	205 W. Madison.
WHITEHEAD, JOHN B., JR.*	Norfolk, Va.	Norfolk Acad.	Adams.	VI.	2000 Maryland Av.
WHITRIDGE, WILLIAM.	Baltimore.	W. S. Marston.	Adams.	VI.	511 Cathedral.
WOLF, ADOLPH G.	Washington, D. C.	Washington High Sch.	Franklin.	II.	1122 McCulloh.
WOLFF, FRANK A., Jr.	Baltimore.	Balt. City Coll.	Morse.	IV.	12 W. Camden.
WOODS, CHARLES F., Jr.	Baltimore.	Private Instruction.	Wood.	VII.	222 W. Townsend.
WRIGHT, J. HOMER.	Pittsburgh, Pa.	Shattuck Sch.	Martin.	III.	203 W. Franklin.
ZEIGLER, O. WOODWARD.	Baltimore.	Balt. City Coll.	Spieker.	I.	616 George.

Candidates for Matriculation.

ABERCROMBIE, JOHN R.*	Baltimore.	Balt. City Coll.	Renouf.	III.	827 N. Eutaw.
AMES, DELANO.	Washington, D. C.	Columbian Univ.	Martin.	III.	206 W. Monument.
AMES, JOHN MCE.	St. Paul, Minn.	Shattuck School.	Morse.	III.	203 W. Franklin.
BAKER, NEWTON D., JR.*	Martinsburg, W. Va.	Episcopal High Sch. (Va.)	Griffin.	III.	851 N. Howard.
BALDWIN, CHARLES G.	Baltimore.	W. S. Marston.	Wood.	IV.	1006 N. Charles.
BALDWIN, RIGNAL W., Jr.*	Baltimore.	Balt. City Coll.	Adams.	VI.	1615 Linden Av.
BLACKFORD, WILLIAM S.*	Baltimore.	Pension Olivier, Lausanne.	Griffin.	II.	1310 Eutaw Place.
BRIGHAM, WALTER C.	Baltimore.	W. S. Marston.	Wood.	IV.	406 Pressman.
BROWN, G. STEVART.*	Baltimore.	W. S. Marston.	Griffin.	V.	1037 St. Paul.
BROWN, T. MORRIS.	Baltimore.	W. S. Marston.	Morse.	IV.	251 W. Hoffman.
BRYAN, A. COOKMAN.*	Newport, Del.	W. A. Reynolds.	Spieker.	I.	853 N. Eutaw.
BULLOCK, JOHN S., JR.*	Baltimore.	Balt. City Coll.	Renouf.	III.	1427 W. Lombard.
CAMERON, FRANK K.	Baltimore.	Balt. City Coll.	Franklin.	II.	1008 Cathedral.
COX, GEORGE E.*	Baltimore.	E. M. Lamb.	Wood.	IV.	1221 Madison Av.
DOBBIN, GEORGE W., Jr.	St. Denis.	W. S. Marston.	Martin.	III.	224 St. Paul.
FRIEDENWALD, HERBERT.	Baltimore.	E. Deichmann.	Adams.	VI.	2022 Eutaw Place.
GERRY, J. PHILIP.*	Catonsville.	Md. Normal Sch.	Todd.	VII.	Catonsville.
GLASSIE, HENRY H.*	Washington, D. C.	Washington High Sch.	Adams.	VI.	21 E. Centre.

NAME.	RESIDENCE.	SCHOOL OR INSTRUCTOR.	ADVISER.	GROUP.	CITY ADDRESS.
HARTSOCK, JACOB L.	Baltimore.	A. W. Wright.	<i>Spieker.</i>	I.	1409 W. Lombard.
HARVEY, JAMES W.	Catonsville.	C. Maupin.	<i>Spieker.</i>	I.	105 E. Lexington.
HUNT, REID.	Martinsville, O.	Ohio Univ.	<i>Martin.</i>	III.	1021 McCulloh.
JEWETT, HUGH J., JR.*	Glenville.	St. Paul's Sch. (N. H.)	<i>Adams.</i>	VI.	13 E. Franklin.
L'ENGLE, JAQUELIN.*	Jacksonville, Fla.	W. S. Marston.	<i>Adams.</i>	VI.	1217 John.
LEFEVRE, GEORGE.	Baltimore.	Robt. Atkinson.	<i>Martin.</i>	III.	1409 Madison Av.
MCKAY, CHARLES R.	Salt Lake City, Utah.	Riverview Acad. (N. Y.)	<i>Kimball.</i>	II.	1217 Bolton.
MIXTER, CHARLES W.	Plymouth, Mass.	Williston Sem.	<i>Adams.</i>	VI.	205 W. Madison.
MURRAY, ARCHIBALD C.	Baltimore.	Balt. City Coll.	<i>Kimball.</i>	II.	1125 Linden Av.
NORRIS, JAMES F.*	Cumberland.	G. G. Carey.	<i>Wood.</i>	IV.	1401 W. Lanvale.
PAINTER, CHARLES F.	Great Barrington, Mass.	Williams Coll.	<i>Martin.</i>	III.	1217 Bolton.
PLEASANTS, ALFRED W.	Baltimore.	W. S. Marston.	<i>Griffin.</i>	VII.	12 Mt. Vernon Place, W.
POPE, DAVID B.*	Baltimore.	A. W. Wright.	<i>Renouf.</i>	III.	238 W. Lanvale.
REESE, ALBERT M.*	Lake Roland.	E. M. Lamb.	<i>Renouf.</i>	III.	109 W. Pratt.
RITTLER, WILLIAM F.	Baltimore.	E. Deichmann.	<i>Martin.</i>	III.	1317 W. Fayette.
ROBERTS, WILLIAM M.*	Baltimore.	W. S. Marston.	<i>Remsen.</i>	IV.	1116 St. Paul.
RUMBOLD, CUMBERLAND H. H.*	Baltimore.	Winton House. (England.)	<i>Spieker.</i>	V.	623 St. Paul.
SNIVELY, A. BARR.*	Waynesboro, Pa.	A. W. Wright.	<i>Renouf.</i>	III.	422 W. Biddle.
STEARNS, JOHN S.*	Washington, D. C.	A. W. Wright.	<i>Renouf.</i>	III.	422 W. Biddle.
STEENKEN, CHARLES D.	Baltimore.	E. Deichmann.	<i>Martin.</i>	III.	108 S. Patterson Park Av.
STEVENS, LESTER L.*	Baltimore.	Balt. City Coll.	<i>Adams.</i>	VI.	Charles and Ninth.
STEWART, GUSTAV L.*	Baltimore.	Pension Olivier, Lausanne.	<i>Griffin.</i>	II.	329 Dolphin.
STEWART, JOHN, JR.*	Baltimore.	Pension Olivier, Lausanne.	<i>Griffin.</i>	II.	329 Dolphin.
STEWART, REDMOND C.*	Baltimore.	Pension Olivier, Lausanne.	<i>Griffin.</i>	III.	329 Dolphin.
THOMAS, DOUGLAS H., JR.*	Baltimore.	Pension Olivier, Lausanne.	<i>Griffin.</i>	II.	1033 St. Paul.
TOWNSEND, TREVELYAN.	Baltimore.	W. S. Marston.	<i>Martin.</i>	III.	1216 McCulloh.
WHITELOCK, W. WALLACE.	Baltimore.	Penna. Mil. Acad.	<i>Adams.</i>	VI.	1117 N. Charles.
WOODWARD, JESSE C.*	Paris, Ky.	Central Univ. (Ky.)	<i>Renouf.</i>	III.	1023 McCulloh.
ZIEGLER, CLAYTON J.*	York, Pa.	York Collegiate Inst.	<i>Griffin.</i>	IV.	1005 Argyle Av.

PRELIMINARY MEDICAL.

ATKINSON, ALGERNON D.*	Baltimore.	J. Wm. Black.	<i>Renouf.</i>	III.	605 Cathedral.
GREENLEAF, HENRY S.*	Washington, D. C.	Washington High Sch.	<i>Renouf.</i>	III.	1024 McCulloh.
GUNDRY, ALBERD T.*	Catonsville.	A. W. Wright.	<i>Renouf.</i>	III.	Catonsville.
HIRSH, JOSE L.*	Baltimore.	A. W. Wright.	<i>Renouf.</i>	III.	1526 Eutaw Place.
LIKES, SYLVAN H.	Baltimore.	E. Deichmann.	<i>Martin.</i>	III.	1723 Madison Av.

SPECIAL STUDENTS.

AGELASTO, MICHAEL A.	Norfolk, Va.	Bethel Mil. Acad.	<i>Todd.</i>	<i>English and French.</i>	205 W. Madison.
ANDRE, DELAWARE C.*	Baltimore.	E. Deichmann.	<i>Adams.</i>	<i>History, etc.</i>	1123 E. Baltimore.
BROWN, MADISON.	Centreville, Md.	Episcopal High School, Va.	<i>Adams.</i>	<i>History, etc.</i>	1216 Bolton.
BURROUGH, HORACE, JR.	Baltimore.	E. M. Lamb.	<i>Remsen.</i>	<i>Chemistry.</i>	1130 Lafayette Av.
CASKIN, LANGDON.	Baltimore.	Va. Military Inst.	<i>Martin.</i>	<i>Chemistry and Biology.</i>	23 W. North Av.
CATE, HORACE A.*	Baltimore.	W. S. Marston.	<i>Renouf.</i>	<i>Chemistry and Physics.</i>	Homestead.
COLLIER, JAMES C.	Dubuque, Iowa.	Dubuque High School.	<i>Morse.</i>	<i>Chemistry.</i>	1611 John.
COMBS, ROGER B. T.	Leonardtown.	Maryland Agricultural Coll.	<i>Adams.</i>	<i>History, etc.</i>	11 E. Franklin.
CRAWFORD, ALBERT C.	Baltimore.	Balt. City Coll.	<i>Renouf.</i>	<i>Geology.</i>	1009 N. Caroline.
EMERY, JAMES A.	Washington, D. C.	Washington High School.	<i>Remsen.</i>	<i>Chemistry.</i>	1130 Lafayette Av.
GRASTY, ROBERT W.	Mountain Level, Va.	Balt. City Coll.	<i>Adams.</i>	<i>History, etc.</i>	1213 W. Lanvale.
HEITMULLER, HENRY G.	Washington, D. C.	Columbian Univ.	<i>Martin.</i>	<i>Chemistry.</i>	Washington, D. C.
HEWES, JAMES E.*	Baltimore.	E. M. Lamb.	<i>Kimball.</i>	<i>Physics and Chemistry.</i>	14 E. Madison.
HILLIARD, FOSTER H.*	Pocomoke.	G. G. Carey.	<i>Franklin.</i>	<i>Mathematics, etc.</i>	418 Hanover.
HISS, P. HANSON, of Wm.	Baltimore.	Peekskill Mil. Acad.	<i>Adams.</i>	<i>History, etc.</i>	1507 McCulloh.
HOWARD, BENJAMIN C.	Baltimore.	Balt. City Coll.	<i>Duncan.</i>	<i>Electricity, etc.</i>	918 N. Charles.
HUBBARD, RALPH N.*	Columbus, O.	Ohio State Univ.	<i>Renouf.</i>	<i>Chemistry.</i>	222 W. Monument.
HUMPHREYS, WALTER C.	Salisbury.	C. Maupin.	<i>Kimball.</i>	<i>History, etc.</i>	16 E. Madison.
HYNSON, NATHAN D.*	Baltimore.	E. M. Lamb.	<i>Griffin.</i>	<i>Greek, etc.</i>	1612 John St.
JUMP, HENRY D.*	Dover, Del.	Wilmington Conference Acad.	<i>Martin.</i>	<i>Biology, etc.</i>	1210 Druid Hill Av.
KEILEY, JOHN D.*	Brooklyn, N. Y.	Private Instruction.	<i>Franklin.</i>	<i>Physics, etc.</i>	11 E. Pleasant.
LAMB, F. EMERSON.*	Baltimore.	E. M. Lamb.	<i>Franklin.</i>	<i>Mathematics.</i>	625 W. North Av.
LAMB, CHARLES F. W.	Baltimore.		<i>Haupt.</i>	<i>Hebrew.</i>	425 S. Dallas.
LEVERING, EUGENE, JR.	Baltimore.	W. S. Marston.	<i>Adams.</i>	<i>History, etc.</i>	1308 Eutaw Place.
MCCOLLUM, GEORGE T.*	Berea, Ky.	Berea Coll.	<i>Martin.</i>	<i>Biology and Chemistry.</i>	1100 McCulloh.
MCDONALD, JOHN D.*	Baltimore.	St. Paul's Sch. (N. H.)	<i>Duncan.</i>	<i>Electricity, etc.</i>	1111 N. Charles.
PACA, WILLIAM B.	Baltimore.	Balt. City Coll.	<i>Adams.</i>	<i>History, etc.</i>	1216 Bolton.
PENNIMAN, THOMAS D.	St. Denis.	H. W. Lockett.	<i>Franklin.</i>	<i>Mathematics.</i>	St. Denis.
ROSEWATER, VICTOR S.	Omaha, Neb.	Omaha High School.	<i>Adams.</i>	<i>History and Politics.</i>	1032 Druid Hill Av.
SAIGO, K.	Kagoshima, Japan.	Private Instruction.	<i>Adams.</i>	<i>History, etc.</i>	615 St. Paul.
SALINGER, DAVID.*	Baltimore.	Teachers' Seminary, Berlin.	<i>Griffin.</i>	<i>Philosophy.</i>	161 N. Front.
SHIPLEY, HOWARD B.	Randallstown.	W. S. Marston.	<i>Franklin.</i>	<i>Mathematics and Physics.</i>	18 E. Franklin.
TODD, ROBERT I.*	Manassas, Va.	Private Instruction.	<i>Franklin.</i>	<i>Chemistry.</i>	1603 Park Av.
TOMPKINS, WILLIAM M.	St. Louis, Mo.	Georgetown Coll.	<i>Renouf.</i>	<i>Physics, etc.</i>	1023 McCulloh.
WICKES, B. CHAMBERS.*	Baltimore.	W. S. Marston.	<i>Franklin.</i>	<i>Physics, etc.</i>	920 St. Paul.
WILSON, Y. OWENS, JR.*	Baltimore.	Dickinson Coll.	<i>Renouf.</i>	<i>Chemistry.</i>	2107 N. Calvert.

ENUMERATION OF CLASSES, FIRST HALF-YEAR, 1889-90.

Mathematics and Astronomy. (56 Students).

Classes meet in the Physical Laboratory.

Spherical and Practical Astronomy: Professor NEWCOMB. Twice weekly, Tuesday and Thursday, 3 p. m. (10).

Borst.	Gorton.	Poor.	Roszel.
Chapman.	Hancock.	Rosa.	Welch, J. B. G.
Eichelberger.	Manning.		

Theory of Measuring Instruments: Professor NEWCOMB. Twice weekly, Tuesday and Thursday, 1 p. m. (7).

Borst.	Manning.	Rosa.	Welch, J. B. G.
Loomis.	Poor.	Roszel.	

Integral Calculus and Differential Equations: Dr. CRAIG. Three times weekly, Monday, Wednesday, and Friday, 8 a. m. (6).

Aldrich.	McKeen.	Shoemaker.	Welch, J. B. G.
MacKenzie.	McKinney.		

Elliptic Functions: Dr. CRAIG. Twice weekly, Tuesday and Thursday, 10 a. m. (5).

Chapman.	Hancock.	Manning.	Murray, D. A.
Gilman.			

Theory of Functions: Dr. CRAIG. Three times weekly, Monday, Wednesday, and Friday, 10 a. m. (4).

Chapman.	Gilman.	Hancock.	Manning.
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Hydrodynamics: Dr. CRAIG. Twice weekly, Tuesday and Thursday, 8 a. m. (6).

Aldrich.	Loomis.	Rosa.	Shoemaker.
Gilman.	Murray, D. A.		

Modern Algebra; Higher Plane Curves; Finite Differences and Probability: Dr. FRANKLIN. Daily, 9 a. m. (10).

Gilman.	Manning.	Murray, D. A.	Roszel.
Hancock.	McKinney.	Passano.	Welch, J. B. G.
Keidel.	Murray, A. C.		

Theory of Numbers: Dr. FRANKLIN. Twice weekly, Monday and Friday, 12 m. (2).

Chapman.	Gilman.
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Determinants; Theory of Equations; Analytic Geometry: Dr. FRANKLIN. Three times weekly, Monday, Wednesday, and Friday, 11 a. m. (12).

Bissing.	Coben.	Howard, C. McH.	Rawson.
Brown, T. M.	Harrison, R. G.	Oehm.	Turner, H. J.
Cameron, F. K.	Hoffman, S. V.	Penniman.	Wolff, F. A.

Calculus: (Special Topics): Mr. CHAPMAN. Twice weekly, Tuesday and Thursday, 11 a. m. (13).

Bissing.	Coben.	Oehm.	Shoemaker.
Rorst.	Harrison, R. G.	Penniman.	Turner, H. J.
Brown, T. M.	Howard, C. McH.	Rawson.	Wolff, F. A.
Cameron, F. K.			

Analytic Geometry: Mr. CHAPMAN. Daily, 1 p. m. (16).

Ames, J. McE.	Cox.	Keiley.	Norris.
Brown, G. S.	Hilliard.	Lamb.	Roberts, W. M.
Browne, S. H.	Hunt.	McKay.	Turner, A. B.
Bumstead.	Keidel.	McPherson, N. C.	Waidner.

Trigonometry: Mr. PASSANO. Three times weekly, Monday, Wednesday, and Friday, 4 p. m. (8).

Cate.	Hewes.	L'Eagle.	Wickes.
Harvey.	Hirsh.	Todd, R. I.	Woodward.

Physics. (79 Students).

Classes meet in the Physical Laboratory.

Thermodynamics; Heat Conduction: Professor ROWLAND. Daily, 10 a. m. (6).

Hoffman, S. V.	Mackenzie.	Rosa.	Roszel.
Loomis.	Poor.		

General Physics: (Major Course): Dr. KIMBALL. Daily, 12 m. (15).

Browne, W. H., Jr.	Gray, G. W.	Murray, A. C.	Welch, J. B. G.
Bryan, J. E.	Hinde.	Rosa.	Wolf, A. G.
Camerou, F. K.	Mackenzie.	Shipley.	Ziegler, C. J.
Cary, N. W.	McKinney.		

General Physics: (Minor Course): Dr. KIMBALL. Daily, 10 a. m. (51).

Abercrombie.	Cary, N. W.	Howard, C. M.	Snively.
Adler, H.	Cate.	Johnston, J. C.	Stearns.
Atkinson.	Clark, H. F.	Keiley.	Stern.
Baker, N. D.	Coben.	Lothrop.	Stewart, R. C.
Baldwin, C. G.	Collier.	McPherson, N. C.	Stokes.
Behrend.	Cox.	Mitchell.	Tompkins.
Bissing.	Crawford.	Oehm.	Turner, H. J.
Borst.	Garrison.	Penniman.	Waidner.
Brigham, W. C.	Gray, G. W.	Pleasants.	Whitehead.
Brown, T. R.	Greenleaf.	Pope.	Wickes.
Browne, S. H.	Gundry.	Reese.	Wolff, F. A.
Bullock.	Hewes.	Saunders.	Woodward.
Carson, W. H.	Hirsh.	Slagle.	

Electrical Engineering: (First Year's Course): Dr. DUNCAN. Three times weekly, Monday, Wednesday, and Friday, 9 a. m. (12).

Bliss.	Hodges.	Mackenzie.	McPherson, N. C.
Edwards.	Howard, B. C.	McDonald.	Nakano.
Hasson.	Loomis.	McKeen.	Shoemaker.

Electrical Engineering: (Second Year's Course): Dr. DUNCAN. Twice weekly, Tuesday and Thursday, 11 a. m. (7).

Bliss.	Hodges.	Loomis.	Nakano.
Hasson.	Howard, B. C.	McKeen.	

Applied Mechanics: Mr. HASSON. Twice weekly, Tuesday and Thursday, 9 a. m. (6).

Bliss.	Hodges.	McDonald.	Shoemaker.
Edwards.	Howard, B. C.		

Laboratory Work: Professor ROWLAND, Dr. KIMBALL, Dr. DUNCAN, Mr. HASSON, and Mr. AMES. (74).

Abercrombie.	Cohen.	Loomis.	Shoemaker.
Adler, H.	Collier.	Lothrop.	Slagle.
Atkinson.	Cox.	Mackenzie.	Snively.
Baker, N. D.	Edwards.	McDonald.	Stearns.
Baldwin, C. G.	Garrison.	McKeen.	Stern.
Behrend.	Gilman.	McKinney.	Stewart, R. C.
Bissing.	Gray, G. W.	McPherson, N. C.	Stokes.
Bliss.	Greenleaf.	Mitchell.	Strauss, M.
Borst.	Gundry.	Murray, A. C.	Tompkins.
Brigham, W. C.	Hewes.	Nakano.	Turner, H. J.
Brown, T. R.	Hinde.	Oehm.	Waidner.
Browne, S. H.	Hirsh.	Penniman.	Welch, J. B. G.
Browne, W. H., Jr.	Hodges.	Pleasants.	Whitehead.
Bullock.	Hoffman, S. V.	Pope.	Wolf, A. G.
Bryan, J. E.	Howard, B. C.	Reese.	Wolff, F. A.
Carson, W. H.	Howard, C. M.	Rosa.	Wickes.
Cary, N. W.	Hubbard.	Roszel.	Woodward.
Cate.	Johnston, J. C.	Shipley.	Ziegler, C. J.
Clark, H. F.	Keiley.		

Chemistry. (132 Students).

Classes meet in the Chemical Laboratory.

Theoretical Chemistry: Professor REMSEN. Twice weekly, Monday and Tuesday, 12 m. (34).

Allen.	Euery.	Leonard.	Roberts, D. E.
Blacksbear.	Field, W. D.	Metcalf, W. V.	Saunders.
Brigham, C. P.	Gilpin.	Moale.	Shober.
Bronwell.	Herty.	Muñoz.	Stubbs.
Browne, A. L.	Higbee.	Powell, S. L.	Uhlmann.
Burrough.	Hinde.	Randall.	Van Slyke.
Clark, H. F.	Holmes, J. H.	Rich.	White, J.
Coates.	Jones, H. C.	Richardson.	Wolff, F. A.
DeRoode.	Jones, W.		

Chemistry of the Compounds of Carbon: (Second Year's Course): Two lectures by Professor REMSEN, and one review by Dr. MORSE. Three times weekly, Wednesday, Thursday, and Friday, 9 a. m. (51).

Base.	Conklio.	Hunter.	Shippen.
Brown, T. M.	Dobhu.	Koehler.	Steenken.
Browne, W. H., Jr.	Gray, G. W.	Lefevre.	Stokes.
Bryan, J. E.	Higbee.	Leonard.	Strauss, M.
Bumstead.	Heitmuller.	Likes.	Stubbs.
Camerou, F. K.	Hinde.	Painter.	Suiter.
Caskin.	Hough.	Powell, S. L.	Townsend.
Collier.	Hubbard.	Rittler.	Weems.
Cone.	Hunt.	Roberts, D. E.	Wolff, F. A.

In addition, the following students attend the lectures of the Course in the Chemistry of the Compounds of Carbon:

Cary, N. W.	Field, W. D.	Muñoz.	Shober.
Clark, H. F.	Humphreys.	Oppenheimer.	Van Slyke.
Crawford.	Maxwell.	Proudfit.	Vea.
Fanst, E. S.	Moale.	Roberts, D. E.	

General Inorganic Chemistry: (First Year's Course): Three lectures by Professor REMSEN and two reviews by Dr. RENOUF. Daily, 9 a. m. (72).

Abercrombie.	Carson, R. E.	Keiley.	Snively.
Adler, H.	Carson, W. H.	Kuover, W.	Snowden.
Atkinson.	Cate.	Lauchheimer.	Stearns.
Baker, N. D.	Coben.	Lothrop.	Stern.
Baker, T. S.	Cook, V.	McCollum.	Stewart, R. C.
Baldwin, C. G.	Greenleaf.	Morrison.	Straus, I. L.
Behrend.	Guggenheimer.	Paca.	Symington.
Bissing.	Gundry.	Penniman.	Todd, R. I.
Brigham, W. C.	Hewes.	Pleasants.	Tompkins.
Brown, F. E.	Hirsh.	Pope.	Watts.
Brown, M.	Hoffman, S. V.	Powell, L. P.	Wilson, Y. O.
Brown, S. B.	Hubbard.	Randolph.	Wolf, A. G.
Brown, T. R.	Jump.	Reese.	Woods.
Browne, S. H.	Keech.	Shipley.	Woodward.

In addition, the following students attend the lectures of the Minor Course:

Cary, N. W.	Herty.	Muñoz.	Slagle.
Clark, H. F.	Higbee.	Oppenheimer.	Van Slyke.
Fanst, E. S.	Labier.	Proudfit.	Vea.
Field, W. D.	Maxwell.	Saunders.	

Advanced Inorganic Chemistry: Dr. RENOUF. Twice weekly, Thursday and Friday, 11 a. m. (16).

Burrough.	Field, W. D.	Meale.	Roberts, D. E.
Coates.	Herty.	Muñoz.	Ullmann.
DeRoode.	Holmes, J. H.	Randall.	Van Slyke.
Emery.	Jones, H. C.	Richardson.	Weems.

General Inorganic Chemistry: (Second Year's Course): Dr. MORSE. Twice weekly, Monday and Tuesday, 9 a. m. (26).

Base.	Collier.	Hunter.	Rittler.
Brown, T. M.	Dobbin.	Lefevre.	Shuppen.
Browne, W. H., Jr.	Gray, G. W.	Leonard.	Steenken.
Bryan, J. E.	Heitmüller.	Likes.	Strauss, M.
Bumstead.	Hinde.	Painter.	Suter.
Cameron, F. K.	Hough.	Powell, S. L.	Townsend.
Caskin.	Hunt.		

Laboratory Work: Professor REMSEN, Dr. MORSE, Dr. RENOUF, and Mr. EDMOND. Daily, 9 a. m. to 5 p. m. (122).

Abercrombie.	Caskin.	Jump.	Roberts, D. E.
Adler, H.	Cate.	Kerch.	Saunders.
Allan.	Clark, H. F.	Keiley.	Shipley.
Ames, J. M.	Coates.	Kohler.	Shuppen.
Atkinson.	Cohen.	Lauchheimer.	Shober.
Baker, N. D.	Collier.	Lefevre.	Slagle.
Baker, T. S.	Cook, V.	Leonard.	Snively.
Baldwin, C. G.	Crawford.	Likes.	Snowden.
Base.	DeRoode.	Linthicum.	Stearns.
Behrend.	Dobbin.	Lothrop.	Steenken.
Bissing.	Emery.	Maxwell.	Stern.
Blackshear.	Field, W. D.	McCollum.	Stewart, R. C.
Brigham, C. P.	Gilman.	Metcalf, W. V.	Strauss, I. L.
Brisham, W. C.	Gilpin.	Moale.	Strauss, M.
Bromwell.	Gray, G. W.	Morrison.	Stubbs.
Brown, F. E.	Greenleaf.	Muñoz.	Suter.
Brown, M.	Guggenheimer.	Paca.	Symington.
Brown, S. B.	Gundry.	Painter.	Todd, R. I.
Brown, T. M.	Heitmüller.	Penniman.	Townsend.
Brown, T. R.	Herty.	Pleasant.	Ullmann.
Browne, A. L.	Hewes.	Pope.	Van Slyke.
Browne, S. H.	Higbee.	Powell, L. P.	Vea.
Browne, W. H., Jr.	Hinde.	Powell, S. L.	Watts.
Bryan, J. E.	Hirsh.	Prouditt.	Weems.
Bullock.	Holmes, J. H.	Randall.	White, J.
Bumstead.	Hough.	Randolph.	Wilson, Y. O.
Burrough.	Hubbard.	Reese.	Wolf, A. G.
Cameron, F. K.	Hunt.	Richardson.	Wolf, F. A.
Carson, R. E.	Hunter.	Richardson.	Woods.
Carson, W. H.	Jones, H. C.	Rittler.	Woodward.
Cary, N. W.	Jones, W.		

Geology and Mineralogy. (32 Students).

Geology: (Lectures): Dr. WILLIAMS. Three times weekly, Monday, Tuesday, and Wednesday, 9 a. m., in Geological Building. (17).

Brigham, C. P.	Crawford.	Jones, H. C.	Richardson.
Browne, A. L.	DeRoode.	Jones, W.	Roberts.
Cary, A.	Gilpin.	Keyes.	Shober.
Coates.	Grant.	McCallie.	White, J.
Couklin.			

Petrography: (Laboratory Work): Dr. WILLIAMS. Daily, 9 a. m. to 5 p. m., in Geological Building, 2d story. (14).

Brigham, C. P.	Gill.	Jones, W.	Roberts.
Browne, A. L.	Gilpin.	Keyes.	Shober.
Crawford.	Grant.	Richardson.	White, J.
DeRoode.	Jones, H. C.		

Palaeontology: (Laboratory Work): Dr. CLARK. Dr. Clark's lectures on Historical Geology and Palaeontology begin Jan. 1st.

Mineralogy: Dr. WILLIAMS. Lectures, three times weekly, Monday, Tuesday, and Wednesday, 11 a. m., with practical work, Monday, 2.30 to 5 p. m., Lecture-room C of Chemical Laboratory. (25).

Allen, E. T.	Gilpin.	Jones, W.	Roberts.
Brigham, C. P.	Grant.	Keyes.	Shober.
Bromwell.	Herty.	Kohler.	Slagle.
Browne, A. L.	Higbee.	Leonard.	Stubbs.
Cary, N. W.	Hunter.	Moale.	Suter.
Crawford.	Jones, H. C.	Powell, S. L.	White, J.
Field, G. W.			

Biology. (59 Students).

Classes meet in the Biological Laboratory.

Physiology: (Advanced Lectures): Professor MARTIN. Weekly, Thursday, 10 a. m. (14).

Applegarth.	Edes.	Hemmeter.	Morgan, T. H.
Blachstein.	Fernald.	Hoch.	Simon.
Conklin.	Field, G. W.	Kellogg.	Wightman.
Dreyer.	Harrison, R. G.		

General Biology: Professor MARTIN and Dr. ANDREWS. Three times weekly, Monday, Wednesday, and Friday, 10 a. m. (24).

Base.	Hough.	Likes.	Rittler.
Brown, F. E.	Humphreys.	Linthicum.	Steenken.
Dobbin.	Hunt.	Maxwell.	Townsend.
Dreyer.	Jump.	McCollum.	Vea.
Fernald.	Keyes.	Metcalf, M. M.	Weems.
Grant.	Lefevre.	Painter.	Zeigler, O. W.

Physiological Seminary: Professor MARTIN. Weekly, Tuesday, 10 a. m. (8).

Applegarth.	Edes.	Hemmeter.	Simon.
Dreyer.	Harrison.	Hoch.	Wightman.

Morphological Readings: Dr. BROOKS. Weekly, Tuesday, 12 m. (14).

Bigelow.	Fernald.	Kellogg.	Morgan, T. H.
Cary, A.	Field, G. W.	Keyes.	Nicholson.
Conklin.	Grant.	McCallie.	Watase.
Edes.	Harrison, R. G.		

Morphological Seminary: Dr. BROOKS. Weekly, Monday, 12 m. (12).

Bigelow.	Dreyer.	Harrison, R. G.	Morgan, T. H.
Cary, A.	Fernald.	Kellogg.	Nicholson.
Conklin.	Field, G. W.	McCallie.	Watase.

General Zoology: Dr. BROOKS. Twice weekly, Tuesday and Thursday, 11 a. m. (21).

Ames, D.	Harry.	Lanier.	Nicholson.
Caskin.	Heitmüller.	Marden.	Oppenheimer.
Cone.	Johston, J. C.	Maxwell.	Proudfit.
Faust, E. S.	Kellogg.	Metcalf, M. M.	Stokes.
Field, G. W.	Knower, H.	McCallie.	Wright.
Garrison.			

Osteology: Dr. BROOKS. Twice weekly, Tuesday and Thursday, 10 a. m. (22).

Base.	Humphreys.	Linthicum.	Rittler.
Brown, F. E.	Hunt.	Maxwell.	Steenken.
Dobbin.	Jump.	McCollum.	Townsend.
Grant.	Keyes.	Metcalf, M. M.	Vea.
Heitmüller.	Lefevre.	Painter.	Zeigler, O. W.
Hough.	Likes.		

Mammalian Anatomy: Dr. ANDREWS. Daily, 11 a. m. (21).

Ames, D.	Harry.	Lanier.	Nicholson.
Caskin.	Heitmüller.	Marden.	Oppenheimer.
Cone.	Johnston, J. C.	Maxwell.	Proudfit.
Faust, E. S.	Kellogg.	Metcalf, M. M.	Stokes.
Field, G. W.	Knower, H.	McCallie.	Wright.
Garrison.			

Laboratory Work: Professor MARTIN, Dr. BROOKS, Dr. ANDREWS, and Dr. WIGHTMAN. Daily, 9 a. m. to 5 p. m. (56).

Ames, D.	Fernald.	Keyes.	Painter.
Applegarth.	Garrison.	Knower, H.	Proudfit.
Bigelow.	Grant.	Lanier.	Rittler.
Base.	Harrison, R. G.	Lefevre.	Shuppen.
Brown, F. E.	Harry.	Likes.	Simon.
Cary, A.	Heitmüller.	Linthicum.	Steenken.
Caskin.	Hough.	Marden.	Sternberg.
Conklin.	Hunt.	McCallie.	Stokes.
Cone.	Humphreys.	McCollum.	Townsend.
Dobbin.	Hoch.	Metcalf, M. M.	Vea.
Dreyer.	Howard, W. T.	Morgan, T. H.	Watase.
Edes.	Johnston, J. C.	Maxwell.	Weems.
Faust, E. S.	Jump.	Nicholson.	Wright.
Field, G. W.	Kellogg.	Oppenheimer.	Zeigler, O. W.

Pathology. (18 Students).

Classes meet in the Pathological Laboratory.

Pathological Histology: Professor WELCH and Dr. COUNCILMAN. (7).

Applegarth.	Chisolm.	Dreyer.	Moore, H. M. W.
Brown, J.	Dorr.	Martinez.	

Laboratory Work: (Special Research): Professor WELCH, Dr. COUNCILMAN, and Dr. ABBOTT. (11).

Berkley.	Canfield.	Finney.	Randolph.
Booker.	Clark, G. E.	Halsted.	Thomas, H. M.
Brockway.	Earle.	Miller.	

Bacteriology: Dr. WELCH and Dr. ABBOTT. To be organized later.

Greek. (54 Students).

Classes meet in the Front Building, Rooms 4, 14, 16.

Greek Seminary: Plato: Professor GILDERSLEEVE. Twice weekly, Monday and Wednesday, 10 a. m., Classical Library. (27).

Baden.	Fay.	Holmes, D. H.	Sihler.
Bagby.	Fraser.	Johnston, C.	Smith, G. F.
Carroll.	Goodwin.	Main.	Stacey.
Casanowicz.	Grey, W. R.	Morgan, O. T.	Steele.
Devries.	Hammond.	Mustard.	Vos.
Ebeling.	Harris.	Newhall.	White, E. L.
Eckels.	Hill.	Robertson.	

Practical Exercises: Professor GILDERSLEEVE. Twice weekly, Tuesday and Friday, 10 a. m., Classical Library. (26).

Baden.	Fay.	Holmes, D. H.	Sihler.
Bagby.	Fraser.	Main.	Smith, G. F.
Carroll.	Goodwin.	Morgan, O. T.	Stacey.
Casanowicz.	Grey, W. R.	Mustard.	Steele.
Devries.	Hammond.	Newhall.	Vos.
Ebeling.	Harris.	Robertson.	White, E. L.
Eckels.	Hill.		

Lectures on Plato: Professor GILDERSLEEVE. Weekly, Thursday, 10 a. m., Classical Library. (27).

Baden.	Fay.	Holmes, D. H.	Sihler.
Bagby.	Fraser.	Johnston, C.	Smith, G. F.
Carroll.	Goodwin.	Main.	Stacey.
Casanowicz.	Grey, W. R.	Morgan, O. T.	Steele.
Devries.	Hammond.	Mustard.	Vos.
Ebeling.	Harris.	Newhall.	White, E. L.
Eckels.	Hill.	Robertson.	

Xenophon, Oeconomicus: DR. SPIEKER. Four times weekly, Tuesday, Wednesday, Thursday, and Friday, 11 a. m. (8).

Bennett.	Hynson.	Latané.	Peppler.
Bryan, A. C.	Johnson, T. W.	McDowell.	Phillips.

Xenophon, Memorabilia: DR. SPIEKER. Three times weekly, Monday, Tuesday, and Friday, 12 m. (14).

Dembitz.	Harvey.	Morgan, O. T.	Stevens, D. G.
Detwiler.	Johnson, C. W.	Phillips.	White, E. L.
Galloway.	Keating.	Smiley.	Zeigler, O. W.
Hartsock.	Magruder.		

Greek Literature: DR. SPIEKER. Weekly, Thursday, 12 m. (10).

Dembitz.	Hartsock.	Keating.	Smiley.
Detwiler.	Harvey.	Magruder.	Stevens, D. G.
Galloway.	Johnson, C. W.		

Reading at Sight: DR. SPIEKER. Weekly, Monday, 4 p. m. (4).

Carson, R. E.	Carson, W. H.	Cook, V.	Morrison.
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Prose Composition: DR. SPIEKER.

First Year Class. Weekly, Monday, 11 a. m. (8).

Bennett.	Hynson.	Latané.	Peppler.
Bryan, A. C.	Johnson, T. W.	McDowell.	Phillips.

Second Year Class. Weekly, Wednesday, 12 m. (15).

Carroll.	Hartsock.	Keating.	Smith, G. F.
Dembitz.	Harvey.	Magruder.	Stevens, D. G.
Detwiler.	Hill.	Morgan, O. T.	White, E. L.
Galloway.	Johnson, C. W.	Smiley.	

New Testament Greek: DR. ARNOLD. Twice weekly, Wednesday and Friday, 12 m. (7).

Devries.	Johnston, C.	Ramsay.	Weaver.
Casanowicz.	Lamm.	Schloegel.	

Latin. (66 Students).

Classes meet in the Front Building, Rooms 3, 7.

Latin Seminary: Horace: DR. M. WARREN. Twice weekly, Tuesday and Friday, 11 a. m. (31).

Baden.	Elden.	Holmes, D. H.	Sihler.
Bagby.	Fay.	Keidel.	Smith, G. F.
Bowen.	Goodwin.	Lewis, A. F.	Stacey.
Casanowicz.	Grey, W. R.	Main.	Steele.
Carroll.	Hammond.	Moore, J. L.	Stephenson.
Culver.	Harris.	Mustard.	Thorne.
Devries.	Hatfield.	Newhall.	White, E. L.
Eckels.	Hill.	Robertson.	

Lectures on Roman Satire: DR. M. WARREN. Weekly, Monday, 11 a. m. (31).

Baden.	Elden.	Holmes, D. H.	Sihler.
Bagby.	Fay.	Keidel.	Smith, G. F.
Bowen.	Goodwin.	Lewis, A. F.	Stacey.
Casanowicz.	Grey, W. R.	Main.	Steele.
Carroll.	Hammond.	Moore, J. L.	Stephenson.
Culver.	Harris.	Mustard.	Thorne.
Devries.	Hatfield.	Newhall.	White, E. L.
Eckels.	Hill.	Robertson.	

Journal Meetings: DR. M. WARREN. Weekly, Thursday, 11 a. m. (22).

Baden.	Eckels.	Lewis, A. F.	Smith, K.
Bagby.	Elden.	Moore, J. L.	Stacey.
Bowen.	Fay.	Mustard.	Steele.
Casanowicz.	Hammond.	Newhall.	Thorne.
Culver.	Hatfield.	Sihler.	White, E. L.
Devries.	Keidel.		

Terence, Andria: DR. K. W. SMITH. Three times weekly, Monday, Tuesday, and Wednesday, 10 a. m. (11).

Dembitz.	Hartsock.	Keating.	Smiley.
Detwiler.	Harvey.	Magruder.	Stevens, D. G.
Galloway.	Johnson, C. W.	Phillips.	

Reading at Sight: DR. K. W. SMITH. Weekly, Thursday, 10 a. m. (11).

Dembitz.	Hartsock.	Keating.	Smiley.
Detwiler.	Harvey.	Magruder.	Stevens, D. G.
Galloway.	Johnson, C. W.	Phillips.	

Livy (books xxiii, xxiv): DR. K. W. SMITH. Four times weekly, Tuesday, Wednesday, Thursday, and Friday, 9 a. m. (24).

Ames, J. M.	Chesnut.	Jewett.	Stevens, L. L.
Andre.	Davis.	Johnston, T. W.	Stewart, C. M.
Baldwin, R. W.	Friedenwald.	Latané.	Watson.
Bennett.	Gerry.	l'Engle.	West.
Bryan, A. C.	Glassie.	Mixter.	Whitehead.
Bump.	Greenbaum.	Peppler.	Whitlock.

Prose Composition:

Class A: DR. K. W. SMITH. Weekly, Monday, 9 a. m. (9).

Ames, J. M.	Gerry.	Latané.	Watson.
Bennett.	Johnson, T. W.	Peppler.	West.
Bryan, A. C.			

Class B: DR. K. W. SMITH. Weekly, Friday, 10 a. m. (11).

Dembitz.	Hartsock.	Keating.	Smiley.
Detwiler.	Harvey.	Magruder.	Stevens, D. G.
Galloway.	Johnson, C. W.	Phillips.	

Sanskrit and Comparative Philology. (36 Students.)

Classes meet in the Front Building, Room 13.

Vedic Seminary (The Rig-Veda): DR. BLOOMFIELD. Weekly, Friday, 4 p. m. (7).

Baden.	Goodwin.	Magoun.	Steele.
Fay.	Hatfield.	Moore, J. L.	

Introduction to Zend, the language of the Avesta: (Lectures; Bartholomae, Handbuch der alteranischen Dialekte): DR. BLOOMFIELD. Weekly, Wednesday, 4 p. m. (3).

Fay.	Magoun.	Smith, K. W.
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Advanced Sanskrit: (Nala and Hitopadeça): DR. BLOOMFIELD and MR. FAY. Twice weekly, Tuesday, 4 p. m., and Friday, 9 a. m. (6).

Bagby.	Hill.	Main.	Smith, G. F.
Harris.	Holmes, D. H.		

Elementary Sanskrit: (Perry's Primer and Lanman's Reader): MR. FAY. Twice weekly, Tuesday and Friday, 3 p. m. (6).

Carroll.	Mustard.	Stacey.	Vos.
Hammond.	Simonds.		

Comparative Philology: (Lectures; Whitney, Language and the Study of Language): DR. BLOOMFIELD. Weekly, Monday, 3 p. m. (13).

Baden.	Cook, V.	Mustard.	Steele.
Bignell.	Lewis, A. F.	Petrie.	Swigett.
Carson, W. H.	Morrison.	Snowden.	Zeigler, O. W.
Carson, R. E.			

Comparative Grammar of Greek and Latin: (Brugmann's Greek Grammar; Stolz's Latin Grammar): DR. BLOOMFIELD. Weekly, Thursday, 4 p. m. (24).

Baden.	Fay.	Holmes, D. H.	Newhall.
Bagby.	Fraser.	Lewis, A. F.	Simonds.
Carroll.	Goodwin.	Magoun.	Smith, G. F.
Devries.	Hammond.	Main.	Stacey.
Ebeling.	Harris.	Moore, J. L.	Steele.
Eckels.	Hill.	Mustard.	White, E. L.

Semitic Languages. (31 Students).

Classes meet in the Front Building, Room 14.

Cuneiform Inscriptions and the Old Testament: DR. ADLER. Weekly, Tuesday, 5 p. m. (22).

Arnolt.	French.	Morgan, F. A.	Tolman.
Briggs.	Friedenwald.	Rosewater.	Weaver.
Casanowicz.	Guggenheimer.	Shaw.	Wiloughby.
Cohen.	Hollaender.	Suleiman.	Wright.
Dembitz.	Haskins.	Thomson.	Zeigler, O. W.
Devries.	Johnston, C.		

Elementary Assyrian: (Introduction to Haupt's Texts): DR. JOHNSTON. Weekly, Wednesday, 9 a. m. (4).

Casanowicz.	Dembitz.	Suleiman.	Weaver.
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Assyrian: (Third Year—selected texts): DR. ADLER. Weekly, Tuesday, 9–11 a. m. (5).

Casanowicz.	McDowell.	Schloegel.	Suleiman.
Johnston, C.			

Assyrian Seminary: (Preparations for Assyrian-English Glossary): PROFESSOR HAUPT. Twice weekly, Thursday, 3–6 p. m., and Saturday, 8–11 p. m. (7).

Adler.	Casanowicz.	Lamm.	Suleiman.
Arnolt.	Johnston, C.	Schloegel.	

Elementary Hebrew: (Pentateuch): DR. ADLER. Twice weekly, Wednesday and Thursday, 9 a. m. (3).

Maydwell.	Smiley.	Stevens, D. G.
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Hebrew: (Reading at Sight—selected texts): DR. ADLER. Weekly, Thursday, 12 m. (4).

Devries.	Morgan, F. A.	McDowell.	Suleiman.
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Hebrew: (Advanced Course: Critical Interpretation of Ecclesiastes): PROFESSOR HAUPT. Weekly, Monday, 4 p. m. (14).

Adler.	Devries.	Morgan, F. A.	Suleiman.
Arnolt.	Downs.	Ramsay.	Thomson.
Casanowicz.	Johnston, C.	Schloegel.	Weaver.
Dembitz.	McDowell.		

Syriac: (*Roediger's Chrestomathy*): Professor HAUPT. Weekly, Monday, 3 p. m. (7).

Adler.	Casanowicz.	Ramsay.	Suleiman.
Arnolt.	Johnston, C.	Schloegel.	

Ethiopic: (*Practorius' Grammar*): DR. ADLER. Weekly, Tuesday, 11 a. m.—1 p. m. (6).

Arnolt.	Johnston, C.	Schloegel.	Suleiman.
Casanowicz.	Ramsay.		

Arabic: (*Majānī-el-Adab*): Professor HAUPT. Weekly, Monday, 5 p. m. (8).

Adler.	Casanowicz.	Johnston, C.	Schloegel.
Arnolt.	Dembitz.	Ramsay.	Suleiman.

Arabic Conversation: Mr. SULEIMAN. Weekly, Thursday, 11 a. m. (5).

Adler.	Dembitz.	Johnston, C.	Schloegel.
Arnolt.			

German. (114 Students).

Classes meet in 305, 307, and 313 Monument St.

Teutonic Seminary: (*First Section: Old High German*): Dr. WOOD. Four times weekly, Monday, Tuesday, Wednesday, Thursday, 9 a. m. (7).

Bignell.	Faust, A. B.	Hatfield.	Vos.
Cutler.	Francis.	Schloegel.	

Teutonic Seminary: (*Second Section*): Dr. WOOD. Bi-weekly, Thursday, 7-9 p. m. (12).

Bignell.	Francis.	Hatfield.	Ross.
Cutler.	Freeman.	Learncd.	Swigett.
Faust, A. B.	Harrisou, T. P.	Reeves.	Vos.

Gothic: (*Braune, Gothic Grammar; Douse, Introduction to the Gothic of Ulfilas*): Dr. WOOD. Twice weekly, Tuesday and Friday, 10 a. m. (13).

Cutler.	Francis.	Mather.	Reeves.
Elden.	Harrison, T. P.	Moffett.	Schloegel.
Faust, A. B.	Magoun.	Niver.	Swigett.

New High German: (*Readings, 16th to 18th Century; Lectures*): Dr. WOOD. Weekly, Friday, 9 a. m. (18).

Bignell.	Faust, A. B.	Hollander.	Ross.
Bowen.	Francis.	Niver.	Schloegel.
Bullard.	Freeman.	Reeves.	Swigett.
Cutler.	Harrison, T. P.	Robertson.	Vos.
Elden.	Hatfield.		

Middle High German: (*Elementary: Paul's Grammatik; Weinholt's Lesebuch*): Dr. LEARNED. Weekly, Wednesday, 3 p. m. (10).

Bignell.	Elden.	Harrison, T. P.	Reeves.
Bowen.	Files.	Niver.	Swigett.
Cutler.	Francis.		

Middle High German Literature: (*Lectures*): Dr. LEARNED. Weekly, Friday, 3 p. m. (10).

Bignell.	Faust, A. B.	Ross.	Swigett.
Cutler.	Francis.	Schloegel.	Vos.
Elden.	Reeves.		

(Major Course.)

History of German Literature: (*Kluge, Geschichte der deutschen Nationalliteratur*): Dr. WOOD. Weekly, Monday, 10 a. m. (18).

Baker, T. S.	Cutler.	Francis.	Swigett.
Belden.	Edes.	Kerlin.	Symington.
Bell.	Elden.	Lewis, A. F.	Woods.
Bowen.	Faust, E. S.	Rosewater.	Wright.
Carey, N. P.	Files.		

Prose Composition: Dr. WOOD. Weekly, Thursday, 10 a. m. (14).

Baker, T. S.	Carey, N. P.	Kerlin.	Symington.
Belden.	Edes.	Lewis, A. F.	Woods.
Bell.	Elden.	Rosewater.	Wright.
Bowen.	Faust, E. S.		

Goethe: (*Hermann and Dorothea*); **Freytag:** (*Aus dem Mittelalter*): Dr. LEARNED. Three times weekly, Tuesday, Wednesday, and Friday, 10 a. m. (14).

Baker, T. S.	Carey, N. P.	Kerlin.	Symington.
Belden.	Edes.	Lewis, A. F.	Woods.
Bell.	Faust, E. S.	Rosewater.	Wright.
Bowen.	Freeman.		

(Minor Course.)

Briefwechsel zwischen Schiller und Goethe: Dr. WOOD. Weekly, Wednesday, 11 a. m. (23).

Andre.	Chesnut.	Jewett.	Roberts, W. M.
Baker, N. D.	Dembitz.	Likes.	Stearns.
Baldwin, C. G.	Dobbin.	Linthicum.	Stewart, C. M.
Baldwin, R. W.	Galloway.	L'Engle.	Stewart, G. L.
Base.	McKay.	Moffett.	Stewart, J.
Bell.	Greenbaum.		

Goethe: (*Egmont*); **Freytag:** (*Aus dem Jahrhundert der Reformation*); Dr. LEARNED. Three times weekly, Monday, Tuesday, and Friday, 11 a. m.; **Prose Composition:** (*Whitney*); Dr. WOOD and Dr. LEARNED. Weekly, Thursday, 11 a. m. (27).

Andre.	Bowen.	Jewett.	Stearns.
Baker, N. D.	Chesnut.	L'Engle.	Stewart, C. M.
Baldwin, C. G.	Dembitz.	Likes.	Stewart, G. L.
Baldwin, R. W.	Dobbin.	Linthicum.	Stewart, J.
Base.	Galloway.	McKay.	Vea.
Belden.	Glassie.	Moffett.	Watson.
Bell.	Greenbaum.	Roberts, W. M.	

German: (*Minor B: Otis, Elementary German*): Dr. F. M. WARREN. Daily, 5 p. m. (30).

Brown, F. E.	Harvey.	McCullum.	Reese.
Brown, G. S.	Hilliard.	McDowell.	Shoemaker.
Brown, S. B.	Johnson, C. W.	Mellwaine.	Smiley.
Bump.	Jump.	McKinney.	Smith, G. F.
Caskin.	Keating.	Norris.	Stevens, D. G.
Detwiler.	Keiley.	Painter.	Stradley.
Grasty.	Lothrop.	Proudfit.	Wilson, Y. O.
Hartseck.	Magruder.		

(Supplementary Courses.)

Historical German: (*Riehl, Burg Neideck; Virchow, Die Urbevölkerung Europas*): Dr. LEARNED. Twice weekly, Monday and Wednesday, 5 p. m. (9).

Bullard.	Thorne.	Weeks.	Woodburn.
Howe.	Webster.	Willoughby.	Woodford.
Mather.			

Scientific German: (*Helmholtz, Ueber Goethe's Wissenschaftliche Arbeiten; Goethe, Die Metamorphose der Pflanzen*): Dr. LEARNED. Twice weekly, Tuesday and Thursday, 5 p. m. (10).

Edwards.	Keyes.	Muñoz.	Shober.
Grant.	McKinney.	Shipley.	Vea.
Hoffman, S. V.	Moale.		

Lectures on Germany: (*Geography, History, and the History of Culture*): Dr. WOOD and Dr. LEARNED. Weekly, Thursday, 4 p. m. (55).

Andre.	Carey, G.	Grasty.	Norris.
Baker, N. D.	Carey, N. P.	Greenbaum.	Rosewater.
Baker, T. S.	Chesnut.	Hartseck.	Smiley.
Baldwin, C. G.	Cutler.	Harvey.	Smith, G. F.
Baldwin, R. W.	Dembitz.	Hilliard.	Stevens, D. G.
Bell.	Detwiler.	Hollander.	Stewart, G. L.
Belden.	Debbin.	Johnson, C. W.	Symington.
Bignell.	Edes.	Kerlin.	Turoer, A. B.
Bowen.	Elden.	Knower, W.	Tompkins.
Brown, F. E.	Faust, E. S.	L'Engle.	Vos.
Brown, G. S.	Files.	Lewis, A. F.	West.
Brown, T. M.	Francis.	McIlwaine.	Woods.
Bumstead.	Freeman.	Magruder.	Wright.
Cameron, M. J.	Glassie.	Mather.	

Romance Languages. (86 Students).

Classes meet in 305 and 313 W. Monument St.

Advanced Courses: (*Romance Seminary; Italian Dialects; Italian Philology*): Dr. ELLIOTT. (Three classes). Monday, Tuesday, Wednesday, and Thursday, 11 a. m. and 12 m. (6).

Bruce.	Lewis, E. S.	Petrie.	Shelfoe.
Francis.	Logie.		

Advanced Courses: (*Old French Philology; Langue d'Oïl Dialects; Old French Texts; French Phonetics*): Dr. ELLIOTT. (Four classes). Monday and Tuesday, 11 a. m. and 12 m. (13).

Bruce.	Lewis, E. S.	Newhall.	Ross.
Elden.	Logie.	Petrie.	Shelfoe.
Francis.	Monroe.	Revea.	Swigett.
Harrison, T. P.			

French Palaeography: (*Lectures*): Dr. TODD. Weekly, Wednesday, 11 a. m. (3).

Lewis, E. S.	Logie.	Shelfoe.
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Italian and Spanish: Dr. TODD. Daily, 9 a. m. (11).

Garrison.	McKay.	Steiner.	Wright.
Howard, C. M.	Niver.	Tolmao.	Zeigler, O. W.
Knower, H.	Petrie.	Ullmann.	

French: (*Major Course*): Dr. TODD. Four times weekly, Monday, Tuesday, Thursday, and Friday, 10 a. m. (8).

Briggs.	Garrison.	Hollander.	Reeves.
Crawford.	Gerry.	Petrie.	Ross.

French Literature (1550-1789): (*Major Course*): Dr. F. M. WARREN. Weekly, Wednesday, 10 a. m. (11).

Briggs.	Hollander.	Petrie.	Shelfoe.
Elden.	Lewis, E. S.	Reeves.	Swigett.
Gerry.	Logie.	Ross.	

Italian and Provençal Literature: Dr. F. M. WARREN. Twice weekly, Tuesday and Wednesday, 9 a. m. (5).

Lewis, E. S.	Reeves.	Shelfoe.	White, E. L.
Logie.			

French: (Minor Course: Scientific, Historical, Literary, Composition): Dr. F. M. WARREN. Daily, 12 m. (44).

Ames, D.	Carey, G.	Lanier.	Steele.
Ames, J. McE.	Carey, N. P.	Lewis, A. F.	Steenken.
Baker, T. S.	Carson, R. E.	Marden.	Synnington.
Bartou.	Carson, W. H.	Mitchell.	Thorne.
Brigham, W. C.	Cohen.	Morrison.	Turner, H. J.
Brow, M.	Cook, V.	Murray, A. C.	Tompkins.
Brown, S. B.	Cooke, H. W.	Randolph.	West.
Brown, T. M.	Hollander.	Rawson.	Woods.
Browne, S. H.	Howard, B. C.	Rittler.	Wright.
Bumstead.	Howard, C. McH.	Slagle.	Woodburn.
Cameron.	Knower, W.	Smith, S. K.	Zeigler, O. W.

French: (Minor B): Dr. TODD. Three times weekly, Wednesday, Thursday, and Friday, 12 m. (29).

Baker, N. D.	Combs.	McDonald.	Thoroe.
Barton.	Cooke, H. W.	McPherson, N. C.	Todd, R. I.
Brigham, W. C.	Finley.	Mikkelsen.	Tompkins.
Brown, S. B.	Grey, W. R.	Monroe.	Townsend.
Carson, R. E.	Harry.	Smith, S. K.	Vea.
Carson, W. H.	Hunt.	Stowden.	Wickes.
Caskin.	Lewis, A. F.	Stokes.	Ziegler, C. J.
Collier.			

English. (88 Students).

Classes meet in 313 W. Monument St.

(Advanced Courses.)

English Seminary: (Anglo-Saxon Literature): Dr. BRIGHT. Twice weekly, Tuesday and Thursday, 3-5 p. m. (9).

Bruce.	Freeman.	Moffett.	Ross.
Faust, A. B.	Harrison, T. P.	Reeves.	Smith, C. A.
Files.			

Journal Meeting: Dr. BRIGHT. Bi-weekly, Friday, 8-10 p. m. (14).

Belden.	Files.	Lewis, A. F.	Reeves.
Bruce.	Freeman.	Mather.	Ross.
Eckels.	Harrison, T. P.	Moffett.	Smith, C. A.
Faust, A. B.	Kerlin.		

Historical English Grammar: (Lectures): Dr. BRIGHT. Weekly, Monday, 4 p. m. (23).

Belden.	Eckels.	Kerlin.	Sihler.
Bell.	Faust, A. B.	Mather.	Smith, C. A.
Biguell.	Files.	McIlwaine.	Swigett.
Bowen.	Francis.	Moffett.	Vos.
Bruce.	Freeman.	Reeves.	Weeks.
Cutler.	Harrison, T. P.	Ross.	

Beowulf: Dr. BRIGHT. Twice weekly, Wednesday and Friday, 4 p. m. (14).

Biguell.	Freeman.	Ross.	Steiner.
Bruce.	Harrison, T. P.	Sherwood.	Swigett.
Faust, A. B.	Moffett.	Smith, C. A.	Weeks.
Files.	Reeves.		

(Major Course.)

Middle English: (Morris and Skeat's Specimens): Dr. BRIGHT. Twice weekly, Monday and Wednesday, 12 m. (6).

Biguell.	Kerlin.	Sherwood.	Smith, C. A.
Gerry, J. P.	Mather.		

Early Scottish Poetry: Dr. BROWNE. Weekly, Tuesday, 12 m. (12).

Belden.	Eckels.	McIlwaine.	Sherwood.
Bowen.	Files.	Moffett.	Sihler.
Cutler.	Gerry.	Mather.	Smith, C. A.

(Minor Course.)

Anglo-Saxon: (Sweet's Reader): Dr. BRIGHT. Twice weekly, Monday and Wednesday, 11 a. m. (28).

Belden.	Davis.	Keech.	Stevens, L. L.
Bell.	Eckels.	Mather.	Straps, I. L.
Bowen.	Files.	McIlwaine.	Turner, H. J.
Brigham, W. C.	Flood.	Mikkelsen.	Turner, H. J.
Browne, S. H.	Francis.	Pleasants.	Webster.
Carey, N. P.	Guy.	Sihler.	West.
Cutler.	Kerlin.	Smith, C. A.	Whitridge.

Elizabethan Literature; English Comedy: Dr. BROWNE. Three times weekly, Tuesday, Thursday, and Friday, 11 a. m. (17).

Brigham, W. C.	Friedenwald.	Mikkelseu.	Turner, H. J.
Browne, S. H.	Guy.	Pleasants.	West.
Carey, N. P.	Hiss.	Stevens, L. L.	Whitridge.
Davis.	Levering, E.	Straus, I. L.	Zeigler, O. W.
Flood.			

English Literature: (P. H. E.): Dr. BROWNE. Twice weekly, Wednesday and Thursday, 12 m., College Hall. (45).

Abercrombie.	Cox.	Stearns.
Adler, H.	Davis.	Stern.
Andre.	Glassie.	Stevens, L. L.
Atkinson.	Greenbaum.	Stewart, C. M., Jr.
Baldwin, R. W.	Greenleaf.	Stewart, G. L.
Behrend.	Gundry.	Stewart, J.
Bennett.	Hilliard.	Stewart, R. C.
Brown, G. S.	Hirsh.	Turner, A. B.
Bryan, A. C.	Jewett.	Waidner.
Bullock.	Johnson, T. W.	Whitehead.
Bump.	Lataue.	Woodward.
Chesnut.		

History and Politics. (135 Students).

Classes meet in the rooms of the Bluntschli Library, unless otherwise stated.

Historical Seminary: Dr. ADAMS. Weekly, Friday, 8-10 p. m. (37).

Black.	Hoffmann, O.	Monroe.	Stradley.
Brackett.	Howe.	Morgan, F. A.	Taylor.
Bullard.	Hull.	Niver.	Thorne.
Commons.	Iyenaga.	Scaife.	Tolman.
Files.	Lauer.	Shaw.	Webster.
Finley.	McIlwaine.	Sherwood.	Weeks.
French.	McPherson, J. H. T.	Speirs.	Willoughby.
Haskins.	Mather.	Steiner.	Woodburn.
Hazen.	Mikkelsen.	Stephenson.	Woodford.
Heisse.			

Germanic Institutions: Dr. ADAMS. Three times weekly, Wednesday, Thursday, and Friday, 10 a. m. (39).

Biguell.	Haskins.	Mather.	Stephenson.
Black.	Hazeu.	Mikkelsen.	Stradley.
Bullard.	Heisse.	Moffett.	Taylor.
Commons.	Hoffmann, O.	Monroe.	Thorne.
Cutler.	Howe.	Morgan, F. A.	Tolman.
Faust, A. B.	Hull.	Niver.	Webster.
Files.	Iyenaga.	Shaw.	Weeks.
Finley.	Lauer.	Sherwood.	Willoughby.
Freeman.	McIlwaine.	Speirs.	Woodburn.
French.	McPherson, J. H. T.	Steiner.	Woodford.

Church History: Dr. ADAMS. Twice weekly, Monday and Tuesday, 11 a. m. (30).

Agelasto.	French.	Love.	Rosewater.
Barton.	Hazen.	McIlwaine.	Sherwood.
Briggs.	Heisse.	Mitchell.	Smith, S. K.
Bullard.	Hollander.	Monroe.	Steiner.
Cameron, M. J.	Jump.	Morgan, F. A.	Taylor.
Carey, G.	Knower, W.	Niver.	Tolman.
Combs.	Lauer.	Randolph.	Weeks.
Cooke, H. W.	Lewis, E. S.		

International Law: Dr. ADAMS. Twice weekly, Monday and Tuesday, 12 m. (31).

Agelasto.	Iyenaga.	Powell, L. P.	Tolman.
Flood.	Keech.	Rosewater.	Watts.
French.	Lauer.	Saigo.	Webster.
Friedenwald.	Lauchheimer.	Shaw.	Weeks.
Grasty.	Levering.	Speirs.	Whitelock.
Guggenheimer.	Love.	Steuer.	Whitridge.
Guy.	Niver.	Straus, I. L.	Woodford.
Humphreys.	Paca.	Taylor.	

Oriental History: (P. H. E.): Dr. ADAMS. Weekly, Friday 12 m., Room 9. (47).

Abercrombie.	Chesnut.	Lataue.	Stern.
Adler, H.	Cox.	L'Engle.	Stevens, L. L.
Andre.	Davis.	Lothrop.	Stewart, C. M.
Atkinson.	Garrison.	McKay.	Stewart, G. C.
Baldwin, R. W.	Glassie.	Mixter.	Stewart, J.
Behrend.	Greenbaum.	Norris.	Stewart, R. C.
Bennett.	Greenleaf.	Peppler.	Turner, A. B.
Brown, G. S.	Gundry.	Pope.	Waidner.
Brown, T. R.	Hilliard.	Reese.	West.
Bryan, A. C.	Hirsh.	Roberts, W. M.	Whitehead.
Bullock.	Jewett.	Suively.	Woodward.
Bump.	Johnson, T. W.	Stearns.	

Political Economy: (Advanced): Dr. ELY. Twice weekly, Wednesday and Thursday, 9 a. m. (23).

Black.	Hull.	Saigo.	Stradley.
Commons.	Iyenaga.	Shaw.	Tolman.
Finley.	Kerlin.	Sherwood.	Willoughby.
French.	McPherson, J. H. T.	Speirs.	Woodburn.
Haskins.	McCulloh.	Steiner.	Woodford.
Howe.	Mikkelseu.	Stephenson.	

Economic Conferences: Dr. ELY. Weekly, Wednesday, 8-10 p. m. (8).

Black.	Finley.	Sherwood.	Willoughby.
Commons.	Speirs.	Stradley.	Woodford.

Elements of Political Economy: (Ely and Mill): Dr. ELY. Daily, 1 p. m. (29).

Barton.	Howe.	Mitchell.	Tompkins.
Briggs.	Kerlin.	Passano.	Townsend.
Brown, M.	Knower, W.	Randolph.	Ullmann.
Cameron, M. J.	Lauer.	Smith, S. K.	Webster.
Carey, G.	Lefevre.	Stewart, C. M.	Weeks.
Cooke, H. W.	Mikkelsen.	Taylor.	White, J.
Hazen.	Mixter.	Thorne.	Wilson, Y. O.
Hollander.			

Historical Jurisprudence (with especial reference to the History and Development of the Common and Statute Law of England): Mr. EMMOTT. Twice weekly, Monday and Tuesday, 9 a. m. (17).

Commons.	McCulloh.	Sherwood.	Stradley.
Howe.	McPherson, J. H. T.	Steiner.	Taylor.
Hull.	Mikkelsen.	Stephenson.	Tolman.
Humphreys.	Shaw.		Woodford.
Love.			

English Constitutional History: Mr. EMMOTT. Three times weekly, Wednesday, Thursday, and Friday, 12 m. (27).

Agelasto.	Guy.	McPherson, J. H. T.	Straus, I. L.
Commons.	Humphreys.	Niver.	Tolman.
Files.	Iyenaga.	Paca.	Watts.
Flood.	Keech.	Powell, L. P.	Whitelock.
Friedenwald.	Kerlin.	Rosewater.	Whitridge.
Grasty.	Lauchheimer.	Saigo.	Woodburn.
Guggenheimer.	Levering.	Speirs.	

Continental History: Dr. C. L. SMITH. Three times weekly, Wednesday, Thursday, and Friday, 11 a. m. (13).

Agelasto.	Carey, G.	Hollander.	Randolph.
Barton.	Cooke, H. W.	Knower, W.	Rosewater.
Briggs.	Combs.	Mitchell.	Watson.
Cameron, M. J.			

Outlines of European History: (P. H. E.): Dr. C. L. SMITH. Twice weekly, Monday and Tuesday, 12 m., College Hall. (24).

Abercrombie,	Bullock.	Lothrop.	Stearns.
Adler, H.	Garrison.	Norris.	Stevens, L. L.
Ames, J. McE.	Greenleaf.	Pope.	Stewart, C. M., Jr.
Atkinson.	Gundry.	Roberts, W. M.	Stewart, R. G.
Behrend.	Hilliard.	Sulvely.	Turner, A. B.
Brown, T. R.	Hirsh.	Stern.	West.

Herodotus (in translation): Mr. HASKINS. Weekly, Monday, 9 a. m. (16).

Andre.	Davis.	Jewett.	Stewart, C. M.
Baldwin, R. W.	Friedenwald.	L'Engle.	Watson.
Bump.	Glassie.	Mixer.	Whitehead.
Chesnut.	Greenbaum.	Stevens, L. L.	Whitelock.

Greek and Roman History: (P. H. E.): Mr. HASKINS. Twice weekly, Monday and Tuesday, 12 m., Room 9. (25).

Andre.	Cox.	Latane.	Rumbold.
Baldwin, R. W.	Davis.	L'Engle.	Stewart, G. L.
Bennett.	Glassie.	McKay.	Stewart, J.
Brown, G. S.	Greenbaum.	Mixer.	Waidner.
Bryan, A. C.	Jewett.	Peppler.	Whitehead.
Bump.	Johnson, T. W.	Reese.	Woodward.
Chesnut.			

Libraries and Literary Methods: Mr. VINCENT. Weekly, Friday, 10 a. m. (25).

Commons.	Hull.	Rawson.	Stradley.
Cutler.	Mellwaine.	Shaw.	Taylor.
French.	Mather.	Sherwood.	Thorne.
Haskins.	Mikkelsen.	Speirs.	Tolman.
Heise.	Morgan, F. A.	Steiner.	Webster.
Higbee.	Niver.	Stephenson.	Woodburn.
Howe.			

Philosophy. (57 Students).

History of Philosophy: Professor GRIFFIN. Weekly, Tuesday, 9 a. m., in Historical Library. (11).

Belden.	Iyenaga.	Mather.	Salinger.
Bullard.	Lewis, A. F.	Morgan, F. A.	Willoughby.
Devries.	Lauer.	Bawson.	

Psychology: (L. E. P.): Professor GRIFFIN. Three times weekly, Wednesday, Thursday, and Friday, 1 p. m., Lecture-room, Physical Laboratory. (47).

Agelasto.	Friedenwald.	Keech.	Snowden.
Ames, D.	Gerry.	Lanier.	Stokes.
Brown, W. H., Jr.	Grasty.	Lauchheimer.	Straus, I. L.
Bryan, J. E.	Gray, G. W.	Morgan, F. A.	Strauss, M.
Carson, R. E.	Guggenheimer.	Morrison.	Watts.
Carson, W. H.	Guy.	Marden.	Whitelock.
Caskin.	Harry.	Oehm.	Whitridge.
Combs.	Hiss.	Oppenheimer.	Wolf, A. G.
Cone.	Humphreys.	Paca.	Wolf, F. A.
Cook, V.	Hynson.	Powell, L. P.	Wright.
Faust, E. S.	Johnston, J. C.	Saigo.	Zeigler, O. W.
Flood.	Knower, H.	Salinger.	

Logic: (L. E. P.): Mr. EMMOTT. Twice weekly, Monday and Tuesday, 1 p. m., Lecture-room, Physical Laboratory. (48).

Agelasto.	Friedenwald.	Keech.	Salinger.
Ames, D.	Gerry.	Lanier.	Snowden.
Brown, W. H., Jr.	Grasty.	Lauchheimer.	Straus, I. L.
Bryan, J. E.	Gray.	Levering.	Strauss, M.
Carson, R. E.	Guggenheimer.	Morgan, F. A.	Stokes.
Carson, W. H.	Guy.	Morrison.	Watts.
Caskin.	Harry.	Marden.	Whitelock.
Combs.	Hiss.	Oehm.	Whitridge.
Cone.	Humphreys.	Oppenheimer.	Wolf, A. G.
Cook, V.	Hynson.	Powell, L. P.	Wolf, F. A.
Faust, E. S.	Johnston, J. C.	Paca.	Wright.
Flood.	Knower, H.	Saigo.	Zeigler, O. W.

Drawing. Mr. ALDRICH. (93 Students).

Classes meet in the Front Building, Room 18.

Mechanical Drawing. Twice weekly, Monday and Friday, 2-5 p. m. (9).

Bliss.	Howard, B. C.	McPherson, N. C.	Shoemaker.
Edwards.	Howard, C. M.	McDonald.	Turner, H. J.
Hodges.			

Constructive and Representative Drawing. Weekly, Monday, Wednesday, or Friday, 2-5 p. m. (66).

Abercrombie.	Cooke, H. W.	Likes.	Steenken.
Adler, H.	Davis.	Linthicum.	Stern.
Andre.	Detwiler.	Magruder.	Stevens, L. L.
Atkinson.	Greenbaum.	McKay.	Stevens, D. G.
Baker, T. S.	Greenleaf.	Mixer.	Stewart, C. M.
Baker, N. D.	Gundry.	Norris.	Stewart, R. C.
Baldwin, R. W.	Hartsock.	Painter.	Symington.
Behrend.	Harvey.	Peppler.	Townsend.
Bennett.	Hilliard.	Pleasants.	Turner, A. B.
Brown, M.	Hirsh.	Pope.	Vea.
Brown, S. B.	Jewett.	Reese.	West.
Brown, T. R.	Jump.	Rittler.	Whitehead.
Bryan, A. C.	Keating.	Smiley.	Whitelock.
Bullock.	Kelley.	Soively.	Wickes.
Bump.	Latane.	Snowden.	Wilson, Y. O.
Bunstead.	Lefevre.	Stearns.	Woodward.
Chesnut.	L'Engle.		

Special Instruction. Weekly, Monday, Wednesday, or Friday, 2-5 p. m. (18).

Briggs.	Cox.	Mitchell.	Shibley.
Brown, F. E.	Dobbin.	Nicholson.	Strauss, M.
Cameron, F. K.	Edes.	Oppenheimer.	Waidner.
Carson, W. H.	Field, G. W.	Roberts, W. M.	Woods.
Conklin.	Harrison, R. G.		

Mr. Aldrich is also in the class-room from 10 to 12 o'clock on Mondays, Wednesdays, and Fridays.

RECENT APPOINTMENTS IN THE JOHNS HOPKINS UNIVERSITY.

Dr. HENRY M. HURD (Superintendent of the Johns Hopkins Hospital)—Professor of Psychiatry.

Dr. WILLIAM S. HALSTED (Surgeon to the Johns Hopkins Hospital)—Associate Professor of Surgery.

Dr. HOWARD A. KELLY (Gynecologist to the Johns Hopkins Hospital)—Associate Professor of Gynecology and Obstetrics.

ETHAN A. ANDREWS (Ph. D., 1887, late Instructor)—Associate in Biology.

Dr. ALEXANDER C. ABBOTT (Graduate Student, 1885-87)—Assistant in Bacteriology and Hygiene.

WILLIAM S. ALDRICH (U. S. N.)—Instructor in Drawing.

CHARLES A. BORST (Fellow, 1888-89)—Assistant in Astronomy.

CHARLES H. CHAPMAN (A. B., 1888, Fellow, 1888-89)—Instructor in Mathematics.

GEORGE W. EDMOND (A. B., 1884)—Assistant in Chemistry.

ARTHUR C. WIGHTMAN (Ph. D., 1889)—Senior Demonstrator of Physiology.

ARTHUR G. BLACHSTEIN (A. B., Cornell, 1882, M. D., Leipsic, 1887)—Fellow in Pathology.

HOPKINS SCHOLARS.

Graduates (from Virginia and North Carolina).

ALEXANDER MITCHELL CARROLL, of North Carolina.

JOHN DAVID EPES, of Virginia.

HARRIS HANCOCK, of Virginia.

WILLIAM ASBURY HARRIS, of Virginia.

JOSEPH RUFUS HUNTER, of North Carolina.

HENRY READ MELLWAIN, of Virginia.

JAMES RANDLETT MONROE, of North Carolina.

GEORGE PETRIE, of Virginia.

EDWARD BRIGGS RAWSON, of Virginia.

CHARLES ALPHONSO SMITH, of North Carolina.

WALTER PRESTON STRADLEY, of North Carolina.

STEPHEN BEAUREGARD WEEKS, of North Carolina.

ALFRED BAGBY, JR., of Virginia.

WILLIAM RICHARD GREY, of North Carolina.

FRANKLIN DEADERICK LOVE, of North Carolina.

FRANK SUTER, of Virginia.

Undergraduates (from Maryland).

ISAAC LOBE STRAUS, of Baltimore.

CHARLES WILLIAM PEPLER, of Baltimore.

THOMAS RICHARDSON BROWN, of Baltimore.

THEODORE WOOLSEY JOHNSON, of Baltimore.

LEON GREENBAUM, of Baltimore.

LEOPOLD STERN, of Baltimore.

WASHINGTON SCHOLAR.

FIELDING HUDSON GARRISON, of Washington, D. C.

A list of other appointments to Scholarships is given in Circular No. 74.

OFFICIAL ANNOUNCEMENTS.

At the regular meeting of the BOARD OF TRUSTEES of the University, October 9, 1889, action was taken as follows:—

Resolved, That this Board now records its grateful appreciation of the munificence of the late John W. McCoy, by which the University has inherited his large, choice, and costly collection of books, and has become his residuary legatee.

When the full extent of Mr. McCoy's liberality is made known, the Trustees will adopt further measures for commemorating in a suitable manner his great bounty.

Resolved, That this Board authorizes the President of the University to erect in an appropriate place a tablet commemorating the name of Percy Graeme Turnbull, in memory of whom a lectureship of poetry has been founded in this University.

Resolved, That in commemoration of the generosity of Eugene Levering, of Baltimore, the building constructed by him for the use of the Young Men's Christian Association of this University be known as Levering Hall; and the President of the University is directed to see that a suitable inscription is placed within its walls.

In view of the importance of the work of the Young Men's Christian Association, it is deemed desirable that a Standing Committee representing the authorities of the University should act as an advisory board respecting the uses of the new building and the lectures to be given therein, subject to such restrictions as the Trustees, or the Executive Committee, may from time to time prescribe.

Accordingly, Dr. James Carey Thomas, Professor Griffin, and the President of the Young Men's Christian Association for the time being are constituted, with the President of the University, an advisory board respecting the Young Men's Christian Association, to whose approbation all matters thereunto pertaining shall be referred.

Resolved, That, in the opinion of this Board, it is not desirable that any publication be issued by the students of this University without the consent of this Board; and that the publication of a newspaper by any person or persons connected with the University be forbidden.

A communication was received from Professor George H. Williams announcing an important gift to the Mineralogical Department from the widow of the late Professor Henry Carvill Lewis, of Philadelphia. The Trustees directed the President to express their grateful appreciation of the gift, and to take such steps as might be necessary for the arrangement of the books and collections presented to the University.

The Fourteenth Annual Report of the President (76 pp. 8c.) is now ready. It contains in addition to the Report proper, a List of the Fellows and Graduates of the University, 1876-89;—Reports on the Instruction in the Chief Branches of Study during the year, prepared by the principal instructors in the several departments;—a Tabular Statement of the Courses of Instruction, 1888-9; etc.

Information has been received of the death of Mr. George Neville Moore, on October 29, in the twenty-first year of his age. He followed a three years' undergraduate course here, taking the degree of Bachelor of Arts in 1888. He held a University Scholarship in Biology during the last academic year.

The official list of awards at the Paris Exposition states that there have been given: One Grand Prize to the Johns Hopkins University; One Grand Prize and one Gold Medal to Professor Rowland for his photographic map of the solar spectrum, published by the University; One Gold Medal and one Silver Medal to the Publication Agency of the University. The exhibit of the University at Paris consisted of sets of the several journals, etc., issued here.

A silver medal was also awarded for the map of the solar spectrum at the photographic exhibition in Berlin, this summer.

Resolved, That the resignation of Dr. William E. Story, Associate Professor of Mathematics, who has been connected with this Institution since its opening in 1876, be accepted; and that the arrangements for filling his place adopted by the Executive Committee be approved.

Resolved, That the President of the University express to Dr. Story the respect of this Board for his ability, learning, and fidelity, and their best wishes for his usefulness in the new career upon which he is entering.

Resolved, That the resignation of Dr. William H. Howell, Associate Professor of Biology, be accepted, and that the arrangements made by the Executive Committee for filling his place be approved.

Resolved, That the President of the University be requested to inform Dr. Howell that the Trustees regret to lose from the University one who has been successively an undergraduate, a fellow, an assistant, an associate, and an associate professor, and has uniformly discharged with credit the duties that have devolved upon him.

Resolved, That the resignation of Mr. Hugh Newell, Instructor in Drawing, be accepted, and that the President of the University be requested to inform him that his services have been highly valued and that he withdraws with the good wishes of the University.

PRESIDENT GILMAN sailed from New York for Europe on October 16. He will be absent from Baltimore through the winter. During his absence, Professor Remsen will act as President, in accordance with the following announcements:

To the Officers and Students of the Johns Hopkins University.

In accordance with the authority given me by the Trustees, I have asked Professor Remsen to act for me as President of the University in all matters not specially entrusted to others. The usual communications to the Trustees and Executive Committee may be presented through him.

October 15, 1889.

DANIEL C. GILMAN, *President*.

I have accepted the duties assigned to me during President Gilman's absence, and until further notice I shall usually be in the President's office daily at 1 o'clock.

IRA REMSEN, *Acting President*,
Johns Hopkins University.

October 15, 1889.

CURRENT NOTES.

At the International Congress of Chemists in Paris this summer, it was decided to appoint a commission to consider the subject of chemical nomenclature. The commission consists of: Messrs. Berthelot, Friedel, Gautier, Schützenberger, Grimaux, Jungfleisch, Fauconnier, Combes, Béhal, Bouveault (France); Graebe (Switzerland); Alexeieff, Beilstein (Russia); Baeyer, Noelting (Germany); Lieben (Austria-Hungary); Franchimont (Holland); Paterno (Italy); Armstrong (England); Istrate (Roumania); Ira Remsen (United States); Calderon (Spain); Bonkowski Bey (Turkey); Cleve (Sweden); Mourgues (Chili).

Volume XII, No. 1 (114 pp., 4c) of the American Journal of Mathematics is now ready. The series of portraits of distinguished mathematicians begun with the portrait of Professor Sylvester in Volume X was continued in Volume XI with the portrait of M. Hermite; with Volume XII is given that of M. Poincaré. These portraits can be furnished separately at twenty-five cents each.

Vols. VII and VIII (Nos. 60-75) of these Circulars can now be furnished in one bound volume, with title pages and indexes. Price \$2.50. Subscribers may exchange the separate numbers for the bound volume on payment of fifty cents.

NEW PUBLICATIONS, AND ANNOUNCEMENTS.

Contributions to Assyriology and Comparative Semitic Philology.

(BEITRÄGE ZUR ASSYRIOLOGIE UND VERGLEICHENDEN SEMITISCHEN SPRACHWISSENSCHAFT.)

Published with the coöperation of the Johns Hopkins University, Baltimore.

Professor PAUL HAUPT of the Johns Hopkins University is editing in connection with Professor FRIEDRICH DELITZSCH of the University of Leipzig a new periodical, *Beiträge zur Assyriologie und vergleichenden semitischen Sprachwissenschaft* (Contributions to Assyriology and Comparative Semitic Philology), published by J. C. Hinrichs of Leipzig. The editors do not propose to issue the journal at fixed intervals, but from time to time, as sufficient satisfactory material is at hand. Each part of the *Beiträge* will be sold separately at one mark per form of sixteen octavo pages.

The plan of such a series was conceived by Professor Haupt as early as 1878, but various circumstances prevented its realization. This new series will form a *pendant* to the quarto volumes of the Assyriological Library edited by Friedrich Delitzsch and Paul Haupt, which now includes Haupt's Akkadian and Sumerian Texts and his Babylonian Nimrod Epic, Bezold's Achaemenian Inscriptions with the cuneiform text of the smaller Achaemenian Inscriptions autographed by Professor Haupt, Strassmaier's Alphabetical List of Assyrian and Akkadian Words, Lyon's Sargon, Zimmern's Babylonian Penitential Psalms, Delitzsch's Assyrian Dictionary, Lehmann's Samassumkin, Weisbach's Second Species of the Achaemenian Inscriptions and Bang's Old Persian Texts.

Due regard will be given to the principles of Comparative Philology, so often neglected by Semitic scholars, and this will be a distinctive feature of the contributions published in the *Beiträge*. The editors do not contemplate increasing the number of existing organs exclusively intended for cuneiform specialists.

Naturally the *Beiträge* will chiefly contain the work of the German Semitic School, though articles in other languages especially in English, French, or Latin will not be excluded.

Efforts will be made gradually to arrive at a uniform method of transliteration for the Semitic sounds. Discussion of topics connected with this important question will be welcomed by the editors. For the views expressed only the respective authors will be responsible.

Communications intended for the *Beiträge* may be addressed to Professor Friedrich Delitzsch, 6 Harkertstrasse, Leipzig, Germany, or to Professor Paul Haupt, Johns Hopkins University, Baltimore, Md.;—and from May 15th to September 15th, when the *Beiträge* will generally go to press, exclusively to the latter under the address: Professor Paul Haupt, 10 Grüner Graben, Görlitz, Germany.

CONTENTS, VOL. I, PART I, (NOW READY.) PRICE \$6.00.

1. HAUPT. On the nominal prefix *na* in Assyrian.
2. PRAETORIUS. On Ethiopic Grammar and Etymology.
3. HAUPT. The XIIth tablet of the Babylonian Nimrod Epic (9 plates.)
4. FLEMING. The literary remains of G. F. Grotefend (with portrait.)
5. HAUPT. Results of a new collation of the Izdubar legends.
6. NESTLE. On the verbs mediae *n* in Syriac.
7. HAUPT. On Assyrian nouns.
8. DELITZSCH. Assyro-Babylonian letters.
9. HAUPT. On the Semitic sounds and their transliteration.
10. JEREMIAS. The Sun-god stone of Sippar.
11. HAUPT. On the semi-vowels *y* and *i*.
12. DELITZSCH. On a clay cylinder of Sin-idinnam.
13. HAUPT. Additions and Corrections.
14. STEINDORFF. The cuneiform transliteration of Egyptian names.
15. HAUPT. List of abbreviations.

Orders for any of the above publications may be addressed to the Publication Agency of the Johns Hopkins University, Baltimore. A detailed list of the publications of the Johns Hopkins University will be sent on application.

The Johns Hopkins University Circulars are printed by Messrs. JOHN MURPHY & CO., No. 44 West Baltimore Street, Baltimore, from whom single copies may be obtained; they may also be procured from Messrs. CUSHING & CO., No. 34 West Baltimore Street, Baltimore. Subscriptions \$1.00 a year, may be addressed to the PUBLICATION AGENCY OF THE JOHNS HOPKINS UNIVERSITY, BALTIMORE; single copies will be sent by mail for ten cents each.

THE JOHNS HOPKINS HOSPITAL BULLETIN.

The Trustees of the Johns Hopkins Hospital have authorized the issue of a monthly publication to be known as the Hospital Bulletin. It will contain announcements of courses of lectures, programmes of clinical and pathological study, details of hospital and dispensary practice, abstracts of papers read and other proceedings of the Medical Society of the Hospital, reports of lectures and all other matters of general interest in connection with the work of the Hospital.

In size of page and general make-up the Bulletin will resemble closely the Johns Hopkins University Circulars. In fact it will attempt to fill in the Hospital the same place which the Circulars fill in the University. Nine numbers will be issued annually. The first number will be issued in November, 1889. The subscription price will be one dollar per year.

GENERAL INDEX

TO

AMERICAN JOURNAL OF MATHEMATICS: VOL. I-X (1878-87.)

31 pages, quarto, paper. \$1.00.

SOCIAL SCIENCE, MUNICIPAL AND FEDERAL GOVERNMENT.

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628 pages, octavo, cloth. \$3.50.

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By JOHN G. BOURINOT, Hon. LL. D., D. C. L.

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162 pages, octavo, paper. Price \$1.00.

NOTES SUPPLEMENTARY TO THE STUDIES IN HISTORICAL AND POLITICAL SCIENCE.

The publication of this series of *Notes* was begun in January, 1889. The latest issues are:—

6. WORK AMONG THE WORKINGWOMEN IN BALTIMORE. By Professor H. B. ADAMS.

7. CHARITIES: THE RELATION OF THE STATE, THE CITY, AND THE INDIVIDUAL TO MODERN PHILANTHROPIC WORK. By A. G. WARNER, Ph. D., sometime General Secretary of the Charity Organization Society of Baltimore, now Associate Professor in the University of Nebraska.

8. LAW AND HISTORY. By WALTER B. SCAIFE, LL. B., Ph. D. (Vienna), Reader on Historical Geography in the Johns Hopkins University.

These Notes are sent without charge to regular subscribers to the Studies. They are sold at five cents each; twenty-five copies will be furnished for \$1.00.

JOHNS HOPKINS UNIVERSITY CIRCULARS

Published with the approbation of the Board of Trustees

VOL. IX.—No. 77.]

BALTIMORE, DECEMBER, 1889.

[PRICE, 10 CENTS.]

REPORTS OF RECENT LECTURES AND ADDRESSES.

I. European Municipal Government.

DR. ALBERT SHAW, of *The Minneapolis Tribune*, gave a course of eight lectures to the graduate students of history and politics, November 8 to November 13, 1889. The subject of the series was European Municipal Government. The lectures are the result of personal research in Europe, extending over more than a year. Dr. Shaw received the degree of Ph. D. from this University in 1884, having taken the degrees of A. B. and A. M. at Iowa College in 1879 and 1882 respectively. The course of lectures has also been delivered at Cornell University, and the University of Michigan.

The first lecture consisted of introductory matter. Dr. Shaw spoke of the remarkable rapidity of recent urban development in Europe as well as in America, citing statistics to enforce the point. Thus he showed that Scotland, within the present century, in more than doubling its population, has become a country of town-dwellers, more than two-thirds of the Scotch people now living in large towns. In like manner, it was shown that nearly three-fourths of the English people are concentrated in populous centres. French and German cities have also grown with great rapidity. The new conditions of modern production make it necessary, that henceforth the great bulk of the population of civilized countries live in good-sized towns. This new growth of cities brings with it numerous social and economic problems. Town life, from the point of view of health, morality and education, must be made such as to conduce to the preservation and further progress of the race. The European cities have, especially within fifteen or twenty years, awakened to the necessity of municipal improvement and reform, and they have been doing much in remedying their street systems, improving their buildings, providing good supplies of water, gas, local transportation and other municipal services, in developing educational facilities of all sorts, and in devising efficient systems of health administration. Dr. Shaw proceeded to discuss mediæval town organization, the old-time merchants and trades guilds, and then showed how, especially in England, the growth of the factory system and of modern manufacturing filled the old towns and villages with a new population and made necessary a new system of management. The great English municipal reform act of 1835 was discussed, and the existing system of city government in England was explained.

In the second lecture, Dr. Shaw said that he had chosen Glasgow as the largest British city (excepting London, which was to be treated in a separate lecture) and the one most typical as regards recent municipal reforms. From this city as the starting point the lecturer presented in a general way the British methods and their results in dealing with particular municipal problems. He began with sanitary reforms, and described minutely the organization of the effective system of sanitary inspection by which an army

of inspectors is kept busy in looking out for ordinary "nuisance" cases, infectious disease cases, improper food articles, bad drainage, etc. He also described a remarkable system of dealing with cases of epidemic disease by public disinfection, isolation in hospitals, and the treatment of all infected articles in public sanitary wash-houses and crematories. Glasgow has perhaps the best public cleansing system in the world, including street-cleaning, cleaning of private courts and alleys, and removal of all domestic garbage. The material is in part converted into manure and in part burned up in great municipal crematories. Glasgow was until a few years ago one of the most terribly overcrowded cities in the world, and the authorities at length resolved to buy up and demolish unsanitary tenement-house property, covering a large central area, and to lay out a new system of widened central streets, reselling sites for new structures built upon proper plans. The great project has been carried out successfully. It is in the line of much that has been done in the other great towns of Great Britain to improve the dwellings of the people, and to give better accommodation on the central streets to the movement of traffic. Dr. Shaw showed that these sanitary reforms have greatly reduced the death-rate in British cities and improved all the conditions of life.

In the third lecture, Dr. Shaw continued his description of British cities in general, and Glasgow in particular, as a model and a type. He spoke first of the paving of the streets and construction of public works of all kinds in English cities, and compared the different contract systems. He then took up the topic of sewer systems, and especially the plan of draining sewage from large cities out to great sewer farms. This plan is being very successfully carried out at Birmingham, and in a number of smaller places, and is about to be adopted at Manchester. In Glasgow the sewage is drained into the Clyde, but this method is about to be abandoned.

The next topic was the water supply of English cities. The advantage of an abundant, pure supply of water was stated, and the disposition of the principal cities to obtain it from high sources set forth. Glasgow, for example, obtains its water from a lake in the Highlands. The water supplies are very well administered, everywhere paying for themselves.

The administration of the gas works, directly by the municipal authorities, is quite common in the English cities. Glasgow has been engaged in the gas business for nearly twenty years, and has been very successful in it. The use of gas in this city has increased 140 per cent. since the buying out of the private companies, while the corresponding increase of population has been only 20 per cent. The charges, too, have been reduced one-half. Nearly all the great cities of England operate their gas works as a municipal monopoly, and make them a source of net public revenue.

The next topic was the management of the street railways. Those in Glasgow were built, and are owned by the municipality, and are operated by a private company, by which they are leased. This company pays the

city interest on the original cost, a sinking fund to extinguish the city's original investment, and also a considerable mileage rent. The railways are thus a source of great profits for the city, and of good dividends for the stockholders. A number of other large English towns own their street railways. Birmingham and Manchester are among these, and lease their lines, like Glasgow. Most of these cities realize fair incomes, and afford an example which our American cities might well profit by.

In the fourth lecture, the lecturer began by stating that, before this year, modern London was not a municipality, having been previously governed in a haphazard style. But already she is strengthening her central power—a matter of interest to all, as London is not only the capital of England, but, in a sense, of the world. The old guild system, which the Municipal Corporation Act did not affect, was continued in London alone. In fact, the guilds had become something very like trusts, and, in 1873, Gladstone was compelled to take steps for their reform. As a result, in 1884, a parliamentary commission recommended the extinction of them, but all that was done was to compel them to apply some of their great wealth to educational purposes.

But old London is only the kernel of the great modern metropolis, which has gradually grown farther and farther into the country. The parishes, nevertheless, preserved their rural forms of government, no two of which were alike, and each of them had its own local authorities. The only governing body was the English Parliament. Owing to the loose organization, a shameful condition of affairs arose. Many public duties were neglected, prominently sewerage; for each of the parishes would endeavor to shift on the other anything liable to produce expense, so that some districts became practically "no man's land."

The first reform was the establishment of a registry of the vital statistics of the whole city, which covers about one hundred and twenty square miles, and contains, by an estimate not extravagant, a population of six million and a half. This tremendous city constitutes the municipality of London, and by this we mean the county of London, into which the great metropolis was constituted in 1880, the first step being the establishment by Parliament of a school board over it.

In 1885 the Metropolis Management Act was passed, which consolidated the large number of parishes into thirty-eight districts, with definite boundaries and duties, and established the Metropolitan Board of Works, to which each of the districts sent one representative and the old city three. The districts still remain, but the board has just been abolished. It accomplished much good in remedying the chaotic state in which it found the public works, but it has been superseded recently by the Municipal Council, which already has various bills before Parliament asking for additional powers.

In the fifth lecture, Paris was treated. Dr. Shaw said that this was the first to become a modern, as distinguished from a mediæval, city. The French Revolution accomplished this. Before the revolution of 1848, the government of France was too centralized for Paris to have entire municipal liberty, but at that date universal suffrage was granted; the citizens were empowered to elect not only the councils, but the mayor as well. This system was interrupted again by the centralized government of Napoleon III. But Paris is now governed under the act of 1884. There is no mayor, but the city is divided into *arrondissements*, each of which has a head, and which sends representatives to the Common Council. It is probable that the demand for a mayor will soon be granted. France has made Paris so thoroughly its own as almost to destroy its entity, and the city has been lost in the capital.

In the sixth lecture the municipal government of Rome was considered. The lecturer began by saying that it may seem vulgar to some to speak of the school boards, the sewerage, and the water supply of sacred Rome: but that those who live now are entitled to some consideration, and cannot live on their admiration of mediæval art and pride in archaeological remains. The application of the remedies that were called for by the terrible sanitary condition of the great Italian cities, led to reforms and gave new life to municipal government; the revolutions of this century likewise contributed much to this effect.

Italy now possesses a general scheme of provincial and municipal government like that in France and Belgium. It is divided into provinces, which are subdivided into *communes*. Each municipality has a council

and executive committee and a mayor. In *communes* of more than 250,000 inhabitants the organization is similar. The executive committee is elected by the councils, and in turn elects the mayor. In the smaller *communes* the king, or rather his officers, have the appointing power. The councilors hold office for five years, and one-fifth of them are elected annually. The executive committee, which in the larger cities consists of ten members, is the real ruling body. The law of 1887 introduced such great sanitary provisions that Italy may be able to teach the world something on this point. The ancient splendid water supply of Rome, which had been allowed to fall into a terrible condition, has been restored and improved. Thirty millions of dollars have been appropriated for the demolition of buildings and the straightening and broadening of the streets into magnificent thoroughfares, and this great work is now in progress. A large tract of land has also been set aside as a park, the main attractions of which are to be the ruined monuments of ancient Rome. Thus is evidence given of the rehabilitation of Rome, giving it the right to rank among the most progressive of modern cities.

Berlin was the subject of the seventh lecture. Dr. Shaw began by a description of its administrative constitution. At the head of the Municipal Council is the Burgomaster, or Mayor, who is elected for a term of twelve years and generally re-elected. The councilor's term is six years, and he is, also, generally re-elected. The present Mayor, or Burgomaster, of Berlin previously held that position in Breslau: and it is a common thing to thus secure the services of an officer found by experience to be able and faithful. In 1887, Berlin had a million inhabitants, and has now fully a half-million more. Probably nowhere else has there been so rapid a growth with so little disturbance.

Berlin has entered with boldness upon municipal socialism. Her gas works yield a profit of more than a million dollars annually, and the gas is of good quality, honest measure, and reasonable price. The water supply is well managed and productively administered. The street railway system is most admirable in its completeness. It is at present in the possession of one family, but at the end of its charter term, some twenty years hence, it reverts to the city. It, at present, pays to the city six per cent. on its gross earnings and a considerable paving tax. There are also municipal slaughter houses and other public enterprises, which pay their own way and yield revenue. Only three-fifths of the necessary revenue of the city are raised by taxation, the other two-fifths coming from the profits of these public works. This lecture was concluded with a short account of Munich.

In the eighth lecture, Dr. Shaw spoke of Vienna and Buda-Pesth. He said that Vienna affords the best example in the world of modern city-making. Its metamorphosis, which was brought about by the revolution of 1848, is without parallel. This revolution gave the country a liberal constitution and bestowed upon Vienna a municipal constitution, under which she has secured the services of the best business men within her limits.

A Municipal Council of one hundred and twenty members was created, which consisted of forty from each of the classes of voters. These classes are determined by the amount of direct taxation paid, and the importance of their vote counted accordingly. Objections have been raised by the citizens to this plan but the government hesitates to grow too democratic, and the most that could be done was effected by the law passed in December, 1885, reducing the limit of qualification for entrance into the third or lowest class.

The Council elects its presiding officer, who is the Burgomaster or Mayor, and the government is administered by a magistracy, with the Mayor at its head. The members of the magistracy, unlike the German executive committees, have no voice in the deliberations of the councils except by invitation to give their advice.

The new life manifested itself at once in great schemes for public improvements. The worst-looking capital in Europe was made, by an enormous expenditure for demolition, broadening and straightening on systematic plans, so magnificent that it can fairly compete with Paris in the splendor of its appearance. The fortifications and walls of the old inner city were thrown down, and a circular street, called the Ringstrasse, was laid out. This thoroughfare, nearly two hundred feet in width, lined with splendid public buildings, and interspersed with gardens, is the most imposing street in the world.

Great sanitary reforms were likewise inaugurated. The bad water supply

was converted into a new one, by which, at the cost of millions, the water is brought into the city from high Alpine sources. This, together with building reforms and other sanitary measures, has reduced the death rate from forty to twenty-five per thousand annually. The result is the saving of at least twenty thousand lives annually, the saving from disease of many thousands more, and the prevention of the old epidemics.

Of Buda-Pesth, Dr. Shaw said that it is the least known of the important cities of Europe. There are several reasons for this, of which the principal one is that the Buda-Pesth of to-day is so new that the world has not had time to make her acquaintance. The population is now nearly a half-million, but accompanying the town's growth has been a magnificent architectural development. The revolution of 1848 invigorated the Hungarian nation; the exiles returned to take the helm, and their first steps were to make the city in which the new life centered and the capital of seventeen millions of progressive and ambitious people worthy of its position. Great commercial prosperity followed, building and sanitary reforms were introduced, and the old city began to take on the garb of modern times. The river became the beautifying feature, flowing through the centre of the town. Retaining walls were erected, and along the banks were erected broad promenades, containing handsome public buildings, and other large structures.

S. H. G.

II. The Workingmen's Institutes of London.

By special request, Dr. SHAW spoke on the evening of November 13, before the Historical Seminary on the subject of Workingmen's Institutes in London. He said that just as the English have led the world in industrial progress, they seem likely to lead it in social reforms. Those who have seen signs of decay, in the terrible condition of the working people of London and in the anarchistic leaven that as a consequence sprang into existence there, have not taken into account the remarkable recuperative power of the English people. Owing to this, England has not shown the signs of declension visible in continental countries. Every evil has been made the occasion of parliamentary commissions, and great advance has been made, especially in educational development. But a great work is being accomplished by the institutions privately founded.

The seed, which later blossomed into the great Polytechnic Institute was sown by Quinton Hogg, a wealthy London merchant. It began as a home for boys, and in 1863 developed into an institute for older boys which was intended to expand the work of the Young Men's Christian Association. In 1882 came the opening for which the philanthropist had long waited, and he bought the Polytechnic Institute, which had been slowly decaying, and which was then offered for sale. His eminent ability as an organizer soon became evident, and from 1882 to 1885 his foundation was attended by 60,000 persons. It is primarily a club. A great variety of educational facilities are also open to members and outsiders at small charges. There is a day school for boys of the better classes, whose tuition fees help to pay expenses. No one under sixteen or over twenty-five years of age can become a member, though any one may enter the classes. This provision, which has proved a wise one, is designed to prevent the older men from infringing upon the social enjoyments of the younger. The annual membership fee is twelve shillings. There is a social and refreshment room, in which meals are served; the daily papers are to be found, athletic bulletins are posted, and chess and checker boards are in use. The air of the place is made extremely comfortable and hospitable. There are small committee rooms, a fine library, a reading-room, a large gymnasium, which has two thousand members, one of the finest swimming baths in England (which in winter is floored and serves as a lecture-room), a larger lecture-room, barber shops, and every possible convenience. There is an athletic club with a membership of about six hundred, fine practice grounds, and numerous teams, holding high positions among the rest of England's champions. The tennis men play on the best of grounds, and the boating men have a fine new boat-house. There are classes in science, and technical, commercial, art and musical classes, which earn about one-half of their cost, the other half being paid by the pupils' fees; a small stipend is charged, the institution not being, by any means, regarded as a charitable one, and the principle being applied that what is paid for is valued.

A few years ago Mr. Hogg was able to establish a young women's polytechnic institute, and the same part is taken in this by Mrs. Hogg as by

her husband in the original foundation. It has been a success from the first.

There exists in the institution a weekly paper, a savings bank, accident insurance and a sick fund. Since 1882, Mr. Hogg has invested in this splendid enterprise more than a half a million dollars, and has paid annually out of his own pocket a deficit of thirty thousand dollars, until a year ago, when the Commission of Charities came to the rescue.

The People's Palace is a noble institution of the same kind, but working in the most wretched part of East London. It was founded by Sir Edmund Hay Currie. Side by side with his efforts, Walter Besant, the novelist, began to work independently. He exposed to the wealthy of London and to the world in his novel, "All Sorts and Conditions of Men," published in the autumn of 1882, the terrible condition of East London, and the dull, dreary and empty condition of its people, who had not even a variety show, with which to cheer their wretched existence. The palace was started in 1887, giving prominence at first rather to the amusement than to the educational side, but this was soon changed, and the institution is now working harmoniously and successfully. The city has given playgrounds of ten acres. Last year there were four thousand in the classes, and the best musical and scientific talent in England is secured. The deficit is here likewise met by the Commission of Charities, which has also promised the same amounts for three polytechnic institutes on the south of the Thames and for four in Northern London, on condition that an equal amount be raised elsewhere. There is thus every probability that the year 1890, or at least 1891, will see from ten to twelve of these institutes, comprising one hundred thousand young men, and providing entertainment and instruction for the masses.

S. H. G.

III. Canada and the United States: a Study in Comparative Politics.

On November 1, Hon. JOHN G. BOURINOT addressed the University Historical and Political Science Association. The following is an abstract of the address:

Although resting on a common English basis, the political institutions of Canada and the United States exhibit many divergencies, the result of the different circumstances attending their development. A subject of unusual interest is thus afforded the student of comparative politics.

The British North America Act of 1867 constituted in Canada a central government regulating affairs of national concern, and a number of local governments having the control and management of certain matters naturally and conveniently falling within their jurisdiction. The number of matters confided to the general government is larger than in the United States, while to it are also reserved all powers not definitely given to the provinces. The governor in council has the right to veto any act of a provincial legislature within one year after its receipt. The dominion government consists of the following departments: A governor-general, representing the Queen, and practically irremovable except for cause; a cabinet containing thirteen to fifteen privy councillors, responsible to parliament, and representing the majority in the lower house; a senate, appointed for life by the crown, and having co-ordinate powers of legislation with the house of commons; a house of commons, elected on a uniform franchise for five years, and having the exclusive right to initiate revenue bills; a supreme court, from which appeals lie to the judicial committee of the privy council; a civil service, irremovable except for cause.

The most remarkable divergence from the government of the United States is in the relation of the executive to the legislature. In the United States the president and cabinet are entirely independent of congress and have no responsibility for legislation. They do not appear in congress in support of the measures they suggest, and their recommendations can easily be stifled in committee. The only real power of the president is the negative one of veto. Under these conditions legislation must be to a greater or less degree ill-digested. In Canada the great bulk of public legislation is prepared and presented by the ministry. They discuss measures carefully beforehand and are ready to defend them on the floor of parliament. Great interest is taken in the debates, since on the success or defeat of a bill depends the continuance of the cabinet in office. As the same supervision is exercised in the case of public measures not introduced by the government, shape and direction is given to the entire mass of public enactments. The abuses of the lobby are prevented by the safeguards thrown about the

introduction and passage of private bills. The purity of the ballot is secured by the use of the Australian system of voting and the judicial determination of controverted election cases.

While admitting the existence of weak points in their political system, such as the political veto of the dominion government and the dependence of the provinces on the dominion exchequer, Canadians call attention to the following features of their government: An executive dependent on parliament yet exercising a controlling influence upon legislation; a careful regulation of private legislation; a provincial judiciary appointed by the governor-general and holding office during good behavior; a large and efficient civil service with a certain tenure and the prospect of a competency in old age; a good electoral system; and the vesting of power over divorce in the parliament of the dominion, and not in the provincial legislatures.

C. H. H.

IV. Books, Libraries and Literary Methods.

Mr. J. M. VINCENT, Librarian of the Department of History and Politics, gave a course of six lectures, October 11–November 22, 1889. The following brief abstract of the course has been prepared:

If we begin with the primitive forms of record and trace the history of writing material, we shall find that the substances used for books and correspondence during a given period are indications of the state of civilization. During the early history of mankind records were all, in one sense, monumental, since the writers expected their words to remain only as long as the stone or brick on which they were written and did not see that immortality was more probable in a multitude of copies. The material of books became more and more portable, and we see civilization keeping step with every advance in lightness, cheapness and ease of reproduction.

The papyrus plant became a factor in history of international importance. It was the vehicle of classical literature until transferred to the parchment of the middle ages. The invention of linen paper marks an epoch between an age of darkness and one of rapid progress. The right material having been found, printing was then ready to begin the modern age.

The history of libraries begins almost as soon as that of books; in Egypt, eighteen centuries before Christ; in Assyria the famous library of Assurbanipal of the seventh century B. C., was a repository for a much older literature. Libraries have risen and fallen with the state of culture.

The last three lectures were of a practical character, having reference to the use of libraries and books, and to methods of literary production. The student must learn to glean from libraries what he wants and no more. The keys of literature are catalogues, bibliographies and reference lists, and the lecturer endeavored to point out those which afford the most accurate and complete information, and called attention to many which are apt to be overlooked. A discussion of encyclopædias brought out the qualities of the various great compends and biographical works, and showed for what purposes each was especially adapted.

The book having been found there is still an art in finding the information wanted in it with least delay. One may learn to locate the salient points of books by means of prefaces, tables of contents, indexes and footnotes, and with practice, quickly judge whether a work is to be read or only tasted. Incidentally the reviewing of books was touched upon and some points to be observed by the critic were enumerated: 1. The reviewer must be in an attitude to appreciate the good qualities of a book; 2. Note author's reason for publication; 3. Note points he wishes to establish; 4. State whether he succeeds; 5. Note errors in statement of facts; 6. Errors of judgment; 7. Method of treatment; 8. Mechanical appearance, size of type and page, clearness, illustrations, maps, index and table of contents; typographical errors.

After the reading of books comes the preservation and management of the information gathered, or what may be called the economics of literary production. Various forms of note-taking were discussed, preference being given to cards or loose sheets of paper, which may be arranged by subjects and are capable of indefinite expansion without confusion. The remarks on final compilation, hours of labor and literary hygiene were concluded with sketches of the habits of distinguished authors.

ESSAYS IN THE CONSTITUTIONAL HISTORY OF THE UNITED STATES IN THE FORMATIVE PERIOD, 1775-1789.

By Graduates and Former Members of the Johns Hopkins University, Edited by J. FRANKLIN JAMESON, Ph. D., Late Associate in the Johns Hopkins University, Professor of History in Brown University. Boston, Houghton, Mifflin & Co., 1889, 338 pp. 8vo, \$2.25 net.

Contents: The Predecessor of the Supreme Court, by the Editor; The Movement towards a Second Constitutional Convention in 1788, by Edward P. Smith, Ph. D., Professor in the Worcester Polytechnic Institute; The Development of the Executive Departments, by Jay C. Guggenheimer, A. B.; The Period of Constitution-Making in the American Churches, by William P. Trent, M. A., Professor in the University of the South; The Status of the Slave, 1775-1789, by Jeffrey R. Brackett, Ph. D.

(From the prospectus of the volume.)

The five essays composing this volume were written at the suggestion of the Editor, and are in part an outgrowth of a course in American history, which he conducted in the Johns Hopkins University. They treat of important subjects in the constitutional history of the United States during the period from 1775 to 1789, the period of formation which has lately attracted so largely the attention of the public. In the first of these essays, Professor Jameson relates, mostly from unpublished documents at Washington, the history of the Federal Court of Appeal in Cases of Capture which preceded the present Supreme Court, an important element in the development of our federal judiciary, but little known hitherto. In the second essay, Professor Smith gives an account of the remarkable movement made by the Anti-federalists towards securing the assembly of a second constitutional convention in 1788. In the third, Mr. Guggenheimer describes, from the Journals of Congress and unpublished documents at Washington, the gradual development of the executive departments under the old congress, from the committees of Congress in 1775 to the final organization in 1789, and shows the continuity of the process. In the fourth essay, Professor Trent examines the interesting development which

went on in the constitutions of the religious bodies in the United States, side by side with the constitutional development in civil affairs, and investigates the relations between the two processes. The last paper, by Dr. Brackett, is a detailed exposition, from original sources, of the legal status of the slave and of the institution of slavery at the beginning of the period and at its close, with a view to showing how far the movement toward independence and constitutional development affected this institution.

Each of these subjects is an important one. Each is either a new subject, or has never before received so complete a treatment. But, besides the purpose of presenting the results of their investigations, the authors desire, by the publication of this book, first, to call increased attention to the study of the origins of American institutions, and especially of their historical origin through processes of continuous development. "It has been a habit," says the Editor in his preface "to think of our constitution as having sprung full-armed from the heads of Olympian conventioners. . . . We are convinced that this view is a mistaken one. With the progress of historical science, great national acts of settlement, which have solved deep-lying difficulties or successfully laid the bases for national advancement, are being found, in increasing numbers, to have been preceded by numerous steps of tentative solution, or prepared by a long course of slow and gradual development in the nation. We believe that the same laws of development have held true of America, and that the constitutional history of the United States will be most luminous and fruitful when pursued in accordance with this insight and conviction."

In the second place, the writers desire that their book, by its scope and treatment, shall do something toward broadening the current conception of American constitutional history, and making its treatment more inclusive. It has been too much the custom to think only of our written Constitution, and to forget how many elements of constitutional life are not embraced in the document called by that name. The authors of these essays believe that the study of the constitutional history of the United States is injured by such restriction, and wish to emphasize the need of investigating and treating many subjects which have hitherto not been currently thought of as lying within the scope of American constitutional history.

MEDICAL INSTRUCTION IN THE JOHNS HOPKINS HOSPITAL.

During the year 1889-90, instruction will be given at the Johns Hopkins Hospital in Pathology and Bacteriology, Medicine, Surgery, Gynaecology, and Hygiene, by lectures, demonstrations, laboratory courses, bed-side teaching and general clinics in the laboratories, wards, dispensary, amphitheatre and private operating rooms.

1. PATHOLOGY AND BACTERIOLOGY.

PATHOLOGY.

The instruction in Pathology is under the charge of Dr. W. H. Welch, Professor of Pathology, Johns Hopkins University, and of Dr. W. T. Councilman, Associate in Pathology and Associate Professor of Anatomy, Johns Hopkins University. It is conducted in the Pathological Laboratory, which is one of the buildings of the Johns Hopkins Hospital, especially constructed for pathological work. Here are to be found an autopsy theatre, rooms for bacteriological and special research, rooms for pathological histology, experimental pathology and photography and a museum.

Courses of instruction in Pathological Histology are continued throughout the academic year. In connection with the course in Pathological Histology fresh pathological specimens are demonstrated and also studied microscopically, especially by the aid of frozen sections. Instruction is also given in the methods of making post-mortem examinations and of recording the same.

Much attention is given to the collection and study of material in Comparative Pathology.

The resources of the laboratory are open to those who are fitted to engage in special investigations in any department of pathology.

In addition to regular practical courses in the laboratory extending throughout the academic year, special courses of lectures on pathological subjects will be given during the months of January and February, 1890 Professor Welch at this time will lecture once a week upon the Pathology of Diseases of the Heart and Blood Vessels. The subjects of fatty heart, fibrous myocarditis, diseases of the coronary arteries of the heart, thrombosis, embolism, infarction, and endarteritis, will be considered.

Professor Councilman will lecture upon Inflammation. The modern doctrines of inflammation, the origin of pus, the behavior of fixed cells in inflammation, the relation of bacteria to inflammation, are among the subjects to be considered. The lectures will be illustrated by gross and microscopical specimens.

BACTERIOLOGY.

The instruction in Bacteriology is under the charge of Professor W. H. Welch and of Dr. A. C. Abbott, Assistant in Bacteriology and Hygiene.

The rooms for bacteriological work are in the Pathological Laboratory. They are supplied with all of the apparatus required by modern bacteriological methods, such as those employed in the Hygienic Institute in Berlin. The laboratory has a full set of cultures of pathogenic micro-organisms, and of others useful for study and teaching.

Opportunities for studying bacteriology are available for students during the entire academic year, the laboratory being open on week days from nine o'clock in the morning until six in the evening. As much time can be given to the work as the student has at his disposal.

In the bacteriological course the student becomes familiar with the preparation of the various culture media, with the principles and methods of sterilization, and with the morphological and biological characters of the micro-organisms which belong to this department of study, particularly with those which cause disease. The methods of making biological examinations of the air, water, and soil, are taught.

Facilities are afforded to those who are prepared to undertake original investigations in bacteriology.

A circular containing fuller details concerning the courses of instruction and the opportunities for work in the Pathological Laboratory will be sent upon application to the Registrar of the Johns Hopkins University or to the Clerk of the Johns Hopkins Hospital.

2. MEDICINE.

In this department of the Hospital, which is under the charge of Dr. Wm. Osler, Physician and Professor of Medicine, Johns Hopkins University, are comprised—

I. The Medical Wards.

II. The general Medical Dispensary.

III. The special Dispensaries for Diseases of the Throat, Diseases of Children, and Diseases of the Nervous System.

IV. The Clinical Laboratories.

Instruction is here provided as follows:

I. BED-SIDE AND DISPENSARY TEACHING.

A limited number of graduates in medicine will be permitted to make the daily visit with Professor Osler and his assistants. They will receive instruction in the methods of case-taking, in physical diagnosis, and in the study of the action of medicine.

In the Dispensary, which is also under the immediate charge of Dr. Osler, the more important cases will be selected for study and demonstration.

II. SPECIAL COURSES.

(a) In Laryngology, by Dr. J. N. McKenzie.

(b) In Diseases of Children, by Dr. Osler and Dr. Booker.

(c) In Diseases of the Nervous System and in Electro-Therapeutics, by Dr. Osler and Dr. H. M. Thomas.

III. LECTURES.

(a) Regular weekly Clinics in the Amphitheatre, upon cases or groups of cases illustrating points in diagnosis or treatment.

(b) A course of twelve lectures on Pulmonary Consumption, to be delivered during January, 1890, in the Amphitheatre.

(c) A course of three lectures on the Practical Aspects of Cerebral Localization, to be delivered during February, 1890.

IV. LABORATORY COURSES.

The Clinical Laboratory, which is adjacent to the wards, consists of four rooms provided with chemical, microscopical, and clinical apparatus. With Dr. Lafleur, Assistant in Medicine, courses will be given in

(a) Clinical Microscopy.

(b) Clinical Urinology.

Opportunities will also be given to advanced students to pursue special lines of work in medicine or therapeutics.

3. SURGERY.

The Department of Surgery in the Hospital is under the charge of Dr. W. S. Halsted, Acting Surgeon to the Hospital and Associate Professor of Surgery, Johns Hopkins University.

Surgical instruction will be given in the

- I. Wards.
- II. Amphitheatre.
- III. Private Operating Room.
- IV. Dispensary.

I. WARDS.

Bed-side teaching in general surgery will be given by Dr. Halsted and Dr. Brockway, Assistant in Surgery, to a selected number of graduates in medicine, from November, 1889, to March, 1890.

II. AMPHITHEATRE.

Didactic and Clinical lectures will be given in January and February, 1890, by Dr. Halsted, as follows:

A. Didactic Lectures.

1. Antiseptic Surgery—its development (two lectures).
2. Antiseptic Surgery of To-day.
3. Antiseptic Surgery—modifications of, in special cases.

B. Clinical Lectures.

1. Surgical Tuberculosis.
2. Intestinal Suture.
3. Transfusion.

III. PRIVATE OPERATING ROOM.

Operations will be made here by Dr. Halsted daily, except Sunday, from 8-11 a. m. The privileges of this room will be extended to a selected number of graduates in medicine, from November, 1889, to March, 1890.

IV. DISPENSARY.

Opportunities will be here afforded to graduates in medicine to do practical work from November, 1889, to March, 1890, in the following:

- (1) General Surgery, under the supervision of Drs. Halsted and Finney.
- (2) Genito-Urinary Surgery, under the supervision of Drs. Halsted and Brown.
- (3) Ophthalmology and Otology, under the supervision of Drs. Theobald and Randolph.
- (4) Dermatology, under the supervision of Dr. Morrison.

4. GYNAECOLOGY.

The Department of Gynaecology in the Hospital is under the charge of Dr. H. A. Kelly, Gynaecologist and Obstetrician to the Hospital and Associate Professor of Gynaecology, Johns Hopkins University. It comprises:

- I. The Wards.
- II. The Private Operating Room.
- III. The Dispensary.

Instruction will be given by Dr. Kelly and Dr. H. Robb, Assistant in Gynaecology, according to the following plan:

I. PRACTICAL WORK.

- (1) The operations upon cases admitted to the wards for perineal, vaginal, vesical, uterine, tubal and ovarian

diseases will be used for purposes of instruction either in the weekly clinics or in the class-room.

- (2) Instruction will be given in the wards upon the after-treatment of cases which have been operated upon, their management during the period immediately following the operation and throughout the period of convalescence.
- (3) The Dispensary will be used daily to a limited extent for instruction in the diagnosis of pelvic disease, with special reference to bi-manual methods of examination.
- (4) Private Operating Room. The privileges of this room to see operations by Dr. Kelly will be extended to a limited number of graduates in medicine. Operations will be made daily, except Sunday, at 9 a. m.

II. LECTURES.

- (1) Two lectures by Dr. Kelly on the Technique of Abdominal Surgery will be given in January, 1890.
- (2) A course of four lectures by Dr. Kelly on the Pathology, Diagnosis and Treatment of Tubal and Ovarian Disease will be given in January and February, 1890.

5. HYGIENE.

This department is under the charge of Dr. John S. Billings, Surgeon U. S. Army and Lecturer on Hygiene, Johns Hopkins University, assisted by Dr. A. C. Abbott. The course of instruction will consist of didactic lectures by Dr. Billings, and practical work in the Hygienic Laboratory, by Dr. Billings and Dr. Abbott.

I. LECTURES.

A course of lectures will be given by Dr. Billings during April, to advanced students in Hygiene and Vital Statistics.

II. PRACTICAL COURSES.

These will consist of familiar lectures, and demonstrations and practical work by students. They will comprise physical, chemical, and bacteriological investigations of the air; methods of ventilation and heating; physical, chemical, bacteriological, and general investigations of water; investigations as to the healthfulness of building sites, with reference to vegetation, soil, ground-air, ground-water, ground-temperature, and moisture and organic impurities; the study of ferments and disease-producing micro-organisms; the practical study of methods of sterilization and disinfection; the study of foods, clothing, habitations, etc.

The practical courses in the Hygienic Laboratory will extend over three months, and will commence in March, 1890.

6. PSYCHIATRY.

LECTURES.

A course of five didactic lectures for graduates in medicine will be given by Dr. Hurd, Superintendent of the Hospital and Professor of Psychiatry, Johns Hopkins University, during January and February, upon the Genesis of Delusions, the Insanities of Childhood, Pubescent, Adolescent, Climacteric, and Senile Insanities, Insanities from Constitutional Disease, and Clinical Groupings of Insanity.

Fees.—Graduates of Medical Colleges may be admitted to all of the above-mentioned courses for the sum of \$100.

The charge for all courses in Pathology is,	\$50
For either course,	25
For all courses in Medicine,	50
For either course,	25
For all courses in Surgery,	50
For either course,	25
For all courses in Gynaecology,	50
For either course,	25
For all courses in Hygiene,	50

These fees will include all lectures and clinics in the special departments for which payment has been made.

Graduates in Medicine who desire to attend the didactic lectures only, may do so by paying a proportionate fee. Such

attendants upon lectures are not entitled to special courses of instruction without further payment.

All fees for courses are to be paid at the Johns Hopkins Hospital, North Broadway.

Terms of Admission.—These courses of instruction in Medicine, Surgery, and Gynaecology are open only to graduates in medicine, who must give satisfactory evidence to the officers of the Hospital that they are fitted to profit by the courses.

The courses in Pathology, Bacteriology, and Hygiene are open to graduates in medicine and advanced students in biology.

Letters of inquiry may be addressed to the JOHNS HOPKINS HOSPITAL, North Broadway, BALTIMORE, MD.

PROCEEDINGS OF SOCIETIES.

Scientific Association.

November 13.—Ninety-first regular meeting. Dr. Williams in the chair. Seventy members present.

Papers read:

- Mendelëff's Lectures on the Periodic Law, by IRA REMSEN.
- A Recent Important Find of Fossils near Philadelphia, by G. H. WILLIAMS.

Philological Association.

October 18.—Ninety-sixth regular meeting. Professor Gildersleeve in the chair. Forty-six members present.

Papers read:

- The History of a Text-Edition, by M. BLOOMFIELD.
- On Certain Errors in Godefroy's Dictionnaire de l'ancienne langue française, by H. A. TODD.

November 15.—Ninety-seventh regular meeting. Professor Gildersleeve in the chair. Fifty-two members present.

Papers read:

- The Anglo-Saxon Version of the Gospels, by J. W. BRIGHT.
- The Study of Classical Arabic among the Modern Arabs, by A. SULEIMÂN. (Abstract on p. 26.)

Historical and Political Science Association.

October Meetings.—Dr. H. B. Adams in the chair.

Papers read:

- Law and History, by W. B. SCAIFE. (Published as Note (No. 3) to Studies in Historical and Political Science.)
- Beginnings of Yale University, by B. C. STEINER.

November Meetings.—Dr. H. B. Adams in the chair.

- Canada and the United States: a study in comparative politics, by J. G. BOURINOT. (Abstract on p. 19.)
- Municipal Government of Glasgow, by A. SHAW.
- Popular Education in London, by A. SHAW. (Abstract on p. 19.)
- International Arbitration, by WM. JONES.

Mathematical Society.

November 7.

Papers read:

- On the Hessian of a Product of Linear Functions, by F. FRANKLIN.
- A note on Cubic Curves, by J. F. SPRINGER.
- A proof of Rolle's Theorem, by C. H. CHAPMAN.
- A letter from M. Hermite concerning the life and work of the late M. Halphen was presented. (See p. 25.)

December 5.

Papers read:

- A Demonstration of a Theorem of Gauss's, by JOSEPH PEROTT.
- A proof of the Theorem of Reciprocity for Quadratic Residues, by F. FRANKLIN.
- A note on Rational Fractions, by C. H. CHAPMAN.
- Notes on Theory of Equations, by C. H. CHAPMAN and F. FRANKLIN.

Baltimore Naturalists' Field Club.

October 16.—The following officers were elected:

- President, B. W. BARTON;—Vice-President, E. A. ANDREWS;—Chairman Zoölogical Section, T. H. MORGAN;—Chairman Botanical Section, BASIL SOLLERS;—Chairman Geological Section, G. H. WILLIAMS;—Secretary, H. T. FERNALD.

Dr. G. H. WILLIAMS reported a discovery of fossils near Philadelphia.

November 20.—Dr. B. W. Barton in the chair.

Dr. G. H. WILLIAMS reported on the Sykesville Granites, and the discovery of Celestite near the Maryland State line.

Dr. E. A. ANDREWS gave an account of recent studies on the throwing off of legs by Crabs.

Mr. T. H. MORGAN presented a plan for the preservation of detached observations made by members of the Club, which was adopted.

Mr. BASIL SOLLERS described the flora found on ballast dumpings from vessels at Canton.

Hopkins "House of Commons."

October 7.—Mr. Vernon Cook was elected Speaker.

October 14.—Initiation of new Speaker. Installation of Liberal Ministry, consisting of Messrs. S. H. Guggenheimer, P. M.; S. G. Snowden, H. S.; Sidney Sherwood, F. S. First and second readings of Bill No. 47—"An Act to Restrict Immigration," were passed after much discussion.

October 21.—House went into Committee of the Whole on Bill No. 47, and the committee reported the bill unfavorably. The report was accepted. Ministry defeated.

October 28.—Installation of Conservative Ministry, Messrs. I. L. Straus, P. M.; L. P. Powell, H. S.; R. E. Carson, F. S. Bill No. 48, "A Constitutional Amendment to Extend the Right of Suffrage to Females in the United States," was lost on second reading.

November 4.—Bill No. 49, "An Act to Compel the Electric Companies operating in Baltimore to lay their wires underground," was lost on second reading, and Ministry defeated.

November 11.—Installation of Liberal Ministry, consisting of Messrs. S. H. Lauchheimer, P. M.; S. Guy Snowden, H. S.; Sidney Sherwood, F. S.

November 18.—There being no quorum present, no meeting was held.

November 25.—Bill No. 50, "An Act to more fully secure the independence and secrecy of the Ballot in the State of Maryland." After the first reading, the House adjourned to meet on the first Monday in January, 1890.

Young Men's Christian Association.

October 6.—The collegiate year was opened by a devotional meeting, followed by short addresses from Dr. Learned, Dr. James Carey Thomas, Professor E. H. Griffin, and W. L. Devries.

October 10.—First business meeting of the session. Mr. Eugene Levering was elected an honorary member by a unanimous rising vote. Mr. Hatfield, chairman of committee on visitation of sick students, requested that all cases of illness be promptly reported to himself, Mr. Woodburn or Mr. Bagby. The executive council reported that the Y. M. C. A. of Baltimore had granted the use of their athletic grounds to the Athletic Association of this University as a courtesy to the Johns Hopkins Association.

It was announced that devotional meetings would be held on the first and third Sundays in each month, and that Dr. J. C. Thomas, Dr. M. D. Learned, Dr. R. T. Ely, and Rev. Dr. Grammer, were among those who had consented to conduct the meetings. Devotional meetings were arranged for each Friday at 5 p. m.

Lectures on the *Early Christian Leaders* have been given before the Association as follows:

October 13.—S. Paul the Apostle. Dr. H. B. ADAMS.

October 27.—S. Athanasius. Rev. E. A. LAWRENCE.

November 10.—S. Boniface, the Missionary. Dr. M. D. LEARNED.

November 24.—Hilibrand, Pope Gregory VII. Rev. WM. KIRKUS.

December 8.—St. Bernard. Rev. WAYLAND D. BALL.

December 15.—S. Francis d'Assisi. Dr. H. A. TODD.

November 23.—Second business meeting. The President announced that Levering Hall would be dedicated on or about January 17, and that several gentlemen prominent in Christian work for young men would deliver addresses on that occasion.

It was decided to undertake night school work at the Sailors' Mission on South Broadway. Notice was given of the introduction of an amendment to the Constitution creating a class of sustaining members.

Announcement was made that lectures would be given during the second half-year, dates and subjects to be announced on the bulletin board, as follows:

John Knox: Rev. M. D. BABCOCK;—Bonnet: Dr. A. M. ELLIOTT;—Pascal: Dr. F. M. WARREN;—George Fox: Dr. JAS. CAREY THOMAS;—Bishop Butler: DEAN GRIFFIN;—The Cambridge Platonists: Mr. G. H. EMMOTT;—The Book of Ecclesiastes: Dr. PAUL HAUPT.

The Rev. Bishop Randolph Foster, of the Methodist Episcopal Church, will deliver the annual sermon before the Association.

The Committee on Lectures is arranging to give a course of lectures before the Y. M. C. A. of St. John's College, Annapolis.

The Publication Committee reported that they had published and distributed the Students' Handbook, and the Constitution, but had decided to abandon the plan of the publication of last year's lectures.

IMPORTANT GIFT TO THE UNIVERSITY.

Mrs. Caroline Donovan, of Baltimore, has given one hundred thousand dollars to the Johns Hopkins University. The gift was announced to the Trustees at the office of the Mayor of Baltimore, on November 8, 1889.

In announcing the gift, Mayor Latrobe said:

"Among the many duties performed during my terms of office as mayor of Baltimore, no one act has been more agreeable than that now imposed upon me by my personal relations of friendship with a lady residing near this city, in Baltimore county, who requests me to deliver to you a letter which I now have the honor of reading.

... "My friend, Mrs. Caroline Donovan, directs me to say in this connection, first, that she has written two letters, one of them designating English literature, the other not naming any particular branch of instruction for which the chair is to be established. Her preference is thus shown for the study of English literature, but at the same time she does not wish to encumber the gift with this condition, and, therefore, leaves it to be decided by the university, she desiring to found such a chair as may be of the most practical service. From her conversations with me on the subject I can say, however, that Mrs. Donovan would greatly prefer if the decision of the university in this connection was not for instruction in any of the so-called 'dead languages.'

"Second. Mrs. Donovan desires me to say that the money she gives is her own, made by herself, and not acquired by gift or devise.

"Third. She also instructs me to say that before making this gift she has liberally provided for all those having any claim upon her through blood relationship or otherwise. No just complaint can therefore be made by any one that he or she has been wronged by her thus disposing of her own money.

"The donation is made in the form of a check of the well-known banking-house of Messrs. John S. Gittings & Co., on the Merchants' National Bank of Baltimore, for \$100,000, payable to the order of Mrs. Caroline Donovan, and endorsed by her to the order of the president and board of trustees of the Johns Hopkins University. The house drawing the check is so well known that I have deemed it unnecessary to have it certified.

"On your acceptance of the gift on the conditions contained in the within letters, after my explanation in connection with the chair to be established, I am directed to give you the check. I request that, if accepted, you give me a receipt in writing therefor, which I may hand to Mrs. Donovan as an evidence that I have obeyed her instructions."

Judge Dobbin, President of the Board of Trustees of the University, in acknowledging the gift, said:

"I can scarcely find words in which to express the thanks of the Board of Trustees of the Johns Hopkins University for the noble gift of Mrs. Donovan. It comes at a most opportune moment, for the University is yet

in the formative state, and we are desirous of extending its work in every suitable direction. It also shows that our work is noticed in this community by persons whose interest in that work has heretofore been unknown to us. You may rest assured, and through you the donor may be assured, that the provisions of the gift will be strictly and sacredly complied with."

Mrs. Donovan's Letter.

To the President and Board of Trustees of the Johns Hopkins University:—

Gentlemen—I have requested my friend and counsel, the Hon. Ferdinand C. Latrobe, Mayor of Baltimore, to hand to you my certified check for one hundred thousand dollars, provided you will accept it on the following conditions:

First—The money to be invested by the president and board of trustees of the Johns Hopkins University, and the annual income thereof to be expended in maintaining a chair or professorship in the said university for instruction in English literature, to be known as the "Caroline Donovan Chair."

Second—A report to be made by the president and board of trustees to the Mayor of Baltimore, setting forth the security or securities in which the said sum of one hundred thousand dollars is invested, and whenever hereafter any change is made in the investment, it shall be reported to the Mayor of Baltimore.

If my check is accepted with the conditions herein named, you will please give a receipt therefor to my friend, Mayor Latrobe, who will hand it to me.

Very Respectfully,

October 21, 1889.

CAROLINE DONOVAN.

Another letter, similar in all respects to the above, was presented at the same time, and in this the chair, for the support of which the money is to be used, is not named, the selection of the chair being left to the Trustees.

Acknowledgment of the Gift by Judge Dobbin.

Mrs. Caroline Donovan:—

Madam—I am instructed by the Board of Trustees of this University, to whom your munificent gift of a hundred thousand dollars was made known this morning, to convey to you, on their behalf, a grateful acknowledgment of your generosity, and a deep sense of the good you have done by it. It is especially gratifying to them to know that their labors have become known to you, though living in comparative retirement, and that your appreciation of them has been testified in a form of such lasting value.

The conditions with which you have accompanied the gift, dictated, doubtless, by your views as to how the money will best benefit the interests of your fellow-citizens among whom it will be used, will be carefully observed."

I am, Madam, with great respect,

Your obedient servant,

GEORGE W. DOBBIN,

President Board of Trustees.

November 8, 1889.

ADDITIONS TO CHECK LIST OF STUDENTS.

(See *University Circulars*, No. 76.)

AMES, HOWARD E. (F. by C.) U. S. Navy. M. D., Univ. of Md. *Chemistry*. 1212 Mt. Royal Av.

BALTZELL, WILLIAM H. Baltimore. M. D., Univ. of Md. *Histology*. 805 St. Paul St.

BEADENKOFF, THOMAS M. Baltimore. A. B., J. H. U. *Semitic Languages*. 1708 E. Madison St.

HOWARD, WILLIAM T., JR. Baltimore. M. D., Univ. of Md. *Histology*. 804 Madison Av.

HUIZINGA, REV. ABEL H. (F. by C.) New Paltz, N. Y. A. M., Hope College. *Semitic Languages*. 1033 N. Eutaw St.

PEROTT, JOSEPH DE (F. by C.) Gra-Thumiac, France. Univ. of Berlin. *Mathematics*. 1120 McCulloh St.

RICH, JACOB M. New York City. C. E., Columbia College. *Chemistry*. Eutaw House.

SAUNDERS, CLARENCE A. Florenceville, N. B. A. M., King's College, (N. S.) *Physics*. 851 N. Howard St.

WATSON, WILLIAM T. Catonsville. Univ. of Md. *Histology*. Catonsville.

WEAVER, REV. EDWARD E. Baltimore. A. M., Princeton College. *Semitic Languages*. 320 N. Greene St.

* F. by C. = Fellow by Courtesy.

ACTION OF THE BOARD OF COLLEGIATE ADVISERS, NOVEMBER 6, 1889, WITH RESPECT TO CANDIDATES FOR THE DEGREE OF BACHELOR OF ARTS.

In all cases, the candidate must have pursued the last year of his undergraduate course in this institution, and must have completed his matriculation before entering upon that year, unless, for special reasons, the Board of Advisers shall have permitted a postponement of any portion of the matriculation requirements. Such special reasons must, in all ordinary cases, be submitted to the Board not later than the close of the year preceding the last; and in no case will they be considered later than October of the last year.

Letters have been received from PRESIDENT GILMAN from Paris, Biarritz, and Madrid. The latest is dated Madrid, November 24. A letter from him appeared in the *Baltimore Sun*, November 26.

The CHRISTMAS RECESS will begin on Friday, December 20, and continue till Monday, January 6, 1890.

A BRIEF ACCOUNT OF RECENT ADDITIONS TO THE
COLLECTIONS OF THE GEOLOGICAL
DEPARTMENT.

Physical Geography.

It may prove of interest briefly to describe a series of models, that have recently been loaned to the Johns Hopkins University by the Messrs. E. H. Butler & Co., of Philadelphia. The set includes North America, South America, Europe, Asia, Africa, the United States, and Pennsylvania. The models are the work of the Mindeleff Brothers of the U. S. Geological Survey, who prepared them expressly for the publishers. They have been used in illustrating the geographies recently published by that firm. The models surpass in elaborateness any that have hitherto been constructed, and by agreement with the publishers they remain the only set, as no copies will be made of the present series. They are made of plaster of Paris, and the approximate dimensions are four feet by three feet and six inches. The land is represented in buff on a blue ground, thus assuring a sharp outline to each continent and its accompanying islands. The mountainous portions stand out in bold relief, so that the chief elevations and depressions of the continents are clearly emphasized. The prominent river courses, with their characteristic channels of broad valley or narrow cañon, are plainly shown. One of the most striking features in the topography is the distinctness with which the chief drainage basins are outlined. The extent of the Mississippi basin, for example, and the character of its topography are at once apparent. On the enlarged relief of the United States more details are added than were possible on the model of North America, while on that of Pennsylvania the characteristic features of Appalachian topography are plainly exhibited. The great importance of such models for purposes of illustration in Physical Geography cannot be over-estimated. The value of the entire set is not far from \$2000.

Mr. J. A. Shriver placed the sum of \$175 at the disposal of the Geological Department for the purchase of models and maps relating to Physical Geography. A set of thirty relief maps, designed by Prof. W. M. Davis, of Harvard University, to illustrate the development of the more prominent features in topography, has already been acquired, and a second set, showing the associations of topography with geological structure, prepared by Prof. N. S. Shaler, has been ordered. In addition to these several maps relating to special points in Physical Geography are in course of preparation.

A large model of a unique region in Pennsylvania, showing the effect of valley carving on anticlinal and synclinal structure, is at present under construction by a member of the Pennsylvania Geological Survey.

Palaontology.

Within the last few months Prof. O. C. Marsh, of Yale University, has presented a small but very choice collection of fossils from both American and European formations. Among other valuable specimens may be mentioned several beautiful forms from the Lithographic Slate of Solnhofen, Bavaria. The collection numbers over one hundred different species.

Mr. Joseph Wilcox, of Philadelphia, has also given several interesting fossils from the Tertiary Strata of Florida, which are to be followed later by an extensive collection from the same region.

To these collections will be added a large amount of material brought together by me, or obtained by exchange with other institutions.

W. B. C.

The *Maryland Historical Society* has published in a handsome volume the first instalment of the CALVERT PAPERS, recovered after years of fruitless search, and acquired by the Society somewhat more than a year ago. These papers consist of about 1000 documents relating to the Calvert family and to the province of Maryland; and they extend, chronologically, from the reign of Elizabeth to about ten years before the American Revolution. A large number are of great historical importance and interest.

This volume, besides a selection from these documents, gives an account of their recovery and presentation to the Society, and a complete calendar, carefully prepared by Mr. J. W. M. Lee, of all the papers recovered. A handsome blazon, in colors, of the arms of Cecilius Calvert, as given in Gwillim, forms the frontispiece.

RECENT APPOINTMENTS.

(Also see *University Circulars* 74, 75, 76.)

G. H. HAROLD BALLARD (A. B., 1888)—Instructor in the Washington (D. C.) High School.

GUSTAV BISSING (Ph. D., 1885)—Principal Examiner of Division A, U. S. Patent Office.

BENJAMIN C. BURT (Fellow, 1880-81)—Docent in Historical Psychology, Clark University.

FLORIAN CAJÖRI (Graduate Student, 1883-85)—Instructor in Mathematics, Colorado College.

WILLIAM H. CARPENTER (Fellow by Courtesy, 1881-83)—Assistant Professor of German and the Scandinavian Languages, Columbia College.

ALBERT S. COOK (Associate, 1879-81)—Professor of English, Yale University.

JOHN D. EPES (Graduate Student, 1888-89)—Associate Professor of English, Centre College, Ky.

GEORGE HEMPL (Instructor, 1884-86)—Assistant Professor of English, University of Michigan.

WILLIAM H. HOBBS (Ph. D., 1888)—Curator of the Geological and Mineralogical Museum and Lecturer on Mineralogy and Metallurgy in the University of Wisconsin.

CARY T. HUTCHINSON (Ph. D., 1889)—Electrician, Sprague Electric Company, New York City.

JAMES G. HUME (Graduate Student, 1887-88)—Professor of Mental and Moral Philosophy, University of Toronto.

J. EDWARD KEELER (A. B., 1881)—Astronomer, Lick Observatory.

GEORGE T. KEMP (Ph. D., 1886)—Associate Director of the Department of Physiology and Experimental Therapeutics, Hoagland Laboratory, Brooklyn, N. Y.

WILLIAM S. LEMEN (Graduate Student, 1886-87, 1888-89)—Instructor in Biology, Indianapolis High School.

GONZALEZ LODGE (Ph. D., 1886)—Associate in Latin, Bryn Mawr College.

OTTO LUGGER (Curator of the Biological Museum, 1883-85)—Professor of Entomology and Agriculture, University of Wisconsin.

ROBERT W. MAHON (Ph. D., 1882)—Chemist to the Maryland Extension of the Pennsylvania Steel Co., in charge of the laboratory of the Company at Sparrow's Point, Md.

C. CARROLL MARDEN (A. B., 1889)—Instructor in French and German, Norfolk (Va.) Academy.

DICE McLAREN (Graduate Student, 1888-89)—Professor of Natural History, Maryland Agricultural College.

J. PLAYFAIR McMURRICH (Ph. D., 1885)—Docent in Biology, Clark University.

W. HOWARD MILLER (A. B., 1888)—Teacher, Centreville, Md.

CHARLES W. MOULTON (Ph. D., 1889)—Professor of Chemistry, Shattuck School, Minnesota.

LOUIS RETTGER (A. B., 1888)—Associate in Biology, University of Indiana.

THOMAS H. SPENCE (Matriulate, 1886-88)—Principal, Snow Hill (Md.) High School.

WILLIAM K. WILLIAMS (Ph. D., 1889)—Assistant in the Boston Athenaeum.

At a meeting of the friends and classmates of the late GEORGE NEVILLE MOORE, November 2, 1889, the following resolutions were adopted:

Whereas, the death of our late comrade and classmate, George Neville Moore, has been made known to us within the past few days and a meeting of his class has been called on this day to take appropriate action in the matter, be it

Resolved, That we learn with much sorrow of the death of our esteemed friend and classmate, and recognize that we have lost a very worthy colleague and companion and the University a good student.

Resolved, That our tender sympathies be extended to his bereaved family.

Resolved, That a copy of these resolutions be forwarded to the family and published; and that the proceedings of the meeting be duly entered upon the class records. By order of Executive Committee for the Class,

J. WM. BLACK, *President*.

A BRIEF SKETCH OF THE LIFE OF HALPHEN.

[Extract from a letter of M. HERMITE to Dr. CRAIG.]

(Communicated to the University Mathematical Society, November 7, 1889.)

La mort prématurée de Mr. Halphen a causé tant de regrets et d'émotion dans le monde mathématique que nous pensons répondre au désir des admirateurs de ses travaux en rappelant en quelques mots les principales circonstances de sa vie.

Halphen est né à Rouen le 30 Octobre 1814; après de brillantes études au lycée St.-Louis à Paris, il a été admis en 1864 à l'Ecole Polytechnique. Il en sort dans l'arme de l'artillerie, passe deux années à l'école d'application de l'artillerie et du génie à Metz, et est envoyé à Ausonne, puis à Strasbourg dans un régiment de pontonniers, et à Besançon où il devient lieutenant en premier.

C'était en 1870, la guerre venait d'éclater, le jeune officier se consacre avec le plus grand zèle à l'armement et aux travaux de défense de cette ville frontière, et se plaint avec amertume de ne point partir pour l'armée. Ses chefs se rendent à ses instances, et à peine rétabli d'une fracture de la clavicule causée par une chute de cheval il part malgré l'avis de son médecin, pour Mézières menacée par l'armée allemande. Peu avant l'investissement de la place il est envoyé à l'armée du Nord que le général Faidherbe organisait avec de jeunes soldats n'ayant que quelques mois d'exercices et des officiers échappés de Metz et de Sedan. Ses circonstances étaient d'une extrême gravité, la citadelle d'Amiens venait d'être prise, la Normandie était envahie, Rouen occupé et le Havre menacé. Faidherbe livre la bataille sanglante de Pont-Noyelles qui sauve le Havre; Halphen reçoit du général en chef, la décoration de la légion d'honneur, puis il est présent aux batailles de Bapaume et de St.-Quentin. La première a été une victoire, malheureusement suivie de la capitulation de Péronne qui la rend inutile. La seconde est un effort désespéré et qui devait être le dernier pour dégager Paris. Dans cette lutte acharnée, par une saison des plus rigoureuses contre des troupes fraîches amenées incessamment sur le champ de bataille par le chemin de fer, Halphen a mérité d'être cité par le général Faidherbe dans son ouvrage sur la campagne de l'armée du Nord. Une division en occupant les villages de Faget, Francilly, Valency devait pratiquer la retraite de l'armée, "la batterie Halphen, dit le général en chef, a pris une excellente position à Francilly et y combattit d'une manière remarquable pendant toute la journée." Quelques jours après la bataille de St.-Quentin, Paris succombe et un armistice est conclu pendant lequel le capitaine Halphen est envoyé d'abord à Douai puis à Versailles pour combattre la commune. Après le rétablissement de l'ordre sa carrière militaire se continue dans les directions d'artillerie de Vincennes, de Versailles et de Paris où il reste jusqu'en 1873. Il devient ensuite répétiteur auxiliaire, puis répétiteur adjoint du cours d'analyse à l'Ecole Polytechnique. En 1884 il est nommé examinateur d'admission, et personne n'a oublié avec quelle supériorité il s'est acquitté de ses fonctions. La même année il est promu au grade de chef d'escadron, et en 1886 renonçant aux fonctions d'examinateur il revient au service dans le 11^e régiment d'artillerie de Versailles. Mr. de Freycinet, ministre de la guerre, l'avait nommé officier de la légion d'honneur le 1^{er} Janvier de cette année; il avait été placé sur le tableau d'avancement et allait sans peu devenir lieutenant colonel quand la mort l'a enlevé à l'armée où il s'était distingué dans les circonstances les plus difficiles par son talent et son courage, et à la science où il s'était illustré par de admirables travaux. C'est à partir de 1869 qu'ont commencé les publications mathématiques d'Halphen sur les plus importantes questions de l'analyse à notre époque, la géométrie des complexes et des congruences de droites, la théorie des caractéristiques pour les coniques, la théorie générale des courbes algébriques, la classification des courbes gauches algébriques, les équations différentielles linéaires et leurs invariants, les fonctions elliptiques, la théorie des séries et la théorie des nombres, etc. L'œuvre capitale du profond géomètre est son traité des fonctions elliptiques et de leurs applications dont deux volumes ont seulement paru; du troisième on a pu recueillir des fragments du plus haut intérêt dont Madame Halphen a confié l'impression, qui est maintenant commencée, à quelques amis de son mari. L'éloge des mérites mathématiques d'Halphen n'est plus à faire; Mr. Brioschi Président de l'Académie Royale des Lincei à Rome, en annonçant sa mort à l'illustre société a rappelé ses travaux et l'admiration qu'ils ont imposée à tous les analystes avec la grande autorité qui s'attache à son nom. Nous n'ajouterons rien à ce qui a été dit par l'éminent géomètre, et nous nous contenterons de mentionner les titres accordés à Halphen pendant sa courte vie,

et qui étaient la juste récompense de son talent et de ses efforts. L'Académie des Sciences de Paris lui a décerné le grand prix des Sciences mathématiques, le prix Poncelet et le prix Petit d'Ormay, l'Académie des Sciences de Berlin le prix Steiner, en 1886 il est devenu membre de l'Institut, puis successivement associé étranger de l'Académie Royale des Lincei, de l'Académie des Sciences de la Bretagne et de la Société philosophique et littéraire de Manchester.

Filar-Micrometer Observations of Comet d (Brooks) 1889. Made with the 9.5-inch equatorial of the Johns Hopkins University. By C. A. BORST.

Greenwich M. T.	*	No. Comp.	Comet — *		Comet's Apparent.				Log. p Δ	
			Δα	Δδ	α		δ		for α	for δ
			m s	' "	h m s	o ' "				
October 15 16 28 40.4	a	5.3	-0 41.27	+0 15.5	23 41 20.33	-4 8 30.6	9.184	0.946		
16 15 45 39.4	a	5.3	-0 55.30	+4 55.9	23 41 6.30	-4 3 55.3	8.619	0.947		
17 14 7 56.2	b	15.3	+0 25.66	+2 18.9	23 40 53.98	-3 59 7.7	8.902	0.946		
19 13 53 59.3	c	5.3	+1 41.74	-1 55.9	23 40 34.65	-3 49 8.7	9.046	0.945		
21 14 39 25.7	d	6.3	-0 27.45	-1 31.0	23 40 19.61	-3 38 10.3	8.160	0.944		

Mean Places for 1889.0 of Comparison Stars.

*	α			Red. to App. Place.	δ	Red. to App. Place.	Authority.
	h	m	s				
a	23	41	59.17	{ +2.43 } { +2.43 }	-4 9 6.6	{ +15.5 } { +15.4 }	LL 46612
b	23	40	25.90	+2.42	-4 1 42.2	+15.6	Gould 32111
c	23	38	50.51	+2.40	-3 47 28.2	+15.4	Grant 6281
d	23	40	44.62	+2.44	-3 36 54.6	+15.3	Comp. with C

This comet proves to be one of considerable interest. The elliptic elements which have been calculated bring its aphelion in the vicinity of Jupiter's orbit. And as the aphelion distances, inclinations, and orbital velocities come out so nearly the same, the two bodies would, for some time, move on together in this part of their orbits. Tracing their paths backwards it is found that such a meeting did take place some three years since; and it became a problem of interest, as to how much change has been brought about in the comet's orbit by the influence of Jupiter.

The Shofar—Its Use and Origin. By CYRUS ADLER.

[Abstract of a paper read at the autumn meeting of the American Oriental Society, New York, October 31, 1889.]

The modern Jewish synagogue has preserved in its ceremonial the use of the shofar or cornet. This instrument is usually made of a ram's horn straightened and flattened by heat. It is not only the solitary ancient musical instrument preserved in the Mosaic ritual, but is the oldest form of wind instrument known to be retained in use in the world. The mode of sounding it has been handed down by tradition. A portion of the liturgy for New Year's day (on which it is especially employed) refers particularly to the shofar. The Mishna of *Rosh-hash-shana* (New Year) gives minute directions with regard to this portion of the liturgy. It also furnishes instructions as to the kind of horn to be used.

A study of the Biblical passages shows that it was employed for religious ceremonies, on the day of the year of release, the new-moon, the solemn feasts, and that it would assemble all the children of Israel on the day of judgment. It was principally used, however, as a war signal, to call an army together, give warning of an invasion, sound a charge or a release,

announce a victory and the coronation of a king. It is rarely mentioned as a musical instrument.

Horns of similar construction, with a simple opening at the end were used by the Etruscans and Greeks (made in bronze), by the aborigines of Brazil (wood), and by the ancient and modern inhabitants of India and the Africans of the Lower Congo. Seven specimens of Indian and African horns, of cow's horns and elephant's tusks, are preserved in the U. S. National Museum.

The conclusions reached were:—

1. The oldest wind instrument was the horn of an animal with a natural cavity and a mouth-piece formed by cutting off the end. Horns which required hollowing came into use later.

2. These horns were originally used as signals in time of danger, and for making announcements in general.

3. Many of these important announcements had a religious character. The antiquity of the instrument caused its permanent adoption for sacred purposes.

4. The shofar, speaking especially of the instrument of that name, was originally a trumpet made of the horn of a wild goat. Its especial sacred character may be connected with the sacrificial use made of the goat.

5. The etymology of the word is to be sought in the Assyrian *šappār*, a kind of wild goat; Assyrian *šappartu* meant originally the horn of a *šappār*, and it may afterwards have been used for horn in general.

The Study of Classical Arabic among the Modern Arabs. By LÉON IBN ABI SULEIMÂN.

[Abstract of a paper read before the University Philological Association, November 15, 1889.]

American and European scholars, who have come in contact with educated Arabs, are much surprised to see how well they are informed in regard to European languages, history and literature, and how little they know of their own native language and its literature. Nor is this wonderful if we consider the manner in which Arabic is studied by the modern Arabs. The weak points are the incapacity of most of the teachers and the very imperfect methods they employ, and also the great desire of every Arab to imitate the Europeans, especially the French, as closely as possible, not only in language, but also in dress and mode of life.

It is in Syria, especially in Beirut, that the study of Arabic receives more attention than in any other part of the East. Beirut is situated 57 miles W. N. W. of Damascus, the capital of Syria, and has about 90,000 inhabitants. Of those 50,000 are Christians, mostly from the Lebanon Mountains, 4,000 Jews, and the rest Mohammedans. Science and literature are in the hands of the Christian population, whose number daily increases by immigration from the Lebanon Mountains and the adjacent districts. The city of Beirut is widely known as an educational centre, is resorted to by students from all parts of the East, and the pedagogical methods prevalent in its schools may be fairly assumed as representative.

Every religious denomination maintains at least one school, where instruction is given either free, or for a merely nominal fee. Such schools are frequented by the large middle class.

When the Arab leaves his village and comes to the city of Beirut to go to school, he, for the first time, puts on his red shoes, or rather slippers, which he has hitherto carried carefully under his arm while walking bare-footed to church on Sundays. This is his first step towards enlightenment. Having once entered the school, his only desire is to learn French, which

is taught in every school; and were it not that he is obliged to study Arabic he would certainly not do so. His dislike for this study increases owing to the exceedingly dry and uninteresting manner in which he is taught. After spending nearly two years in learning the alphabet and spelling, he spends three years more in reading the Bible, and all the while no attempt is made to explain to him a single word that he does not understand. Thus far, at least, he, in a measure, follows what he is reading; but afterwards, when selections from old Arabic poetry are given him to read, his task becomes monotonous in the extreme. For now he does not know whether he is reading Arabic, Turkish, or Persian, and his teacher is absolutely unable to enlighten him, as he himself does not comprehend the meaning of a single passage.

We must bear in mind, however, that modern Arabic is just as different from the classical language as modern Greek from classical Greek. After learning to read Arabic poetry fluently, the student enters a class in which the grammar is taught, learning by rote without understanding a word. Writing, like reading, is taught mechanically, and much importance is attached to the acquisition of a good hand. When this has been acquired, the student is given, every two or three weeks, a letter to copy, and thus learns the art of letter writing. After this he leaves the school, but continues his French and English studies. By this time he has exchanged his *Saraweel* for a French suit, addresses his friend *Ya mon cher* and tries to speak French whenever he can find or make an opportunity.

The upper classes, of course, study on a better basis. They usually attend the excellent private schools and colleges, with which Beirut is well provided. The foremost of those and the oldest is the *Madrasat-al-Bustani*, the academy of the late Butrus Bustani, the editor of the famous dictionary *Muḥit-al-Muḥit*. This school, the American College, and the University of the Jesuits, are considered the best. But in these also European languages hold the foremost place, and students desirous of devoting themselves to the study of classical Arabic do so privately after leaving college, studying the Qorân, not taught in any school, the old grammarians, even now the best, and trying to imitate in their writings the language of the Qorân, so pleasing to the ear of the cultivated Arabic scholar. Such men form the several literary societies, among which the *Zahrat-al-Adâb* is the most prominent. But few Arabs can be said to possess a fair knowledge of their own literature. The example, however, of those who devote themselves to this study is beginning to be felt, and the system of the schools is daily becoming better. Nevertheless it will be long before the study of Arabic in the East will be established on a true scientific basis.

Assyriology in Japan. By CYRUS ADLER.

[Abstract of a paper read at the autumn meeting of the American Oriental Society, New York, October 30, 1889.]

After a brief introduction describing the opinion held by various scholars that there was a connection between the aborigines of China and Mesopotamia, an account was given of a paper by Mr. Yonekichi Miyake, in a Japanese literary journal, in which he compared an ancient golden banner preserved at the celebrated Buddhist Temple Horinji, in the province of Yamato, Japan, with designs on Assyrian and Hittite monuments.

The conclusion of the author is "that there once existed inter-continental communication in Asia, and that the Assyrian art was introduced into China, probably through Persia and India. Although Japan is entirely separated from the continent it came under this influence, by way of China, about 1000 years ago."

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NEW PUBLICATIONS, AND ANNOUNCEMENTS.

THE JOHNS HOPKINS HOSPITAL REPORTS.

Volume I, for 1889. (In preparation). This volume will contain the Studies from the Pathological Laboratory.

There will appear articles on the following subjects: hemorrhagic infarction, repair of intestinal suture, reversal of the intestine, extirpation of the thyroid gland in dogs, the effects of artificial heat upon animals, hog cholera, behavior of bacteria in water, bulbar paralysis, cerebellar sclerosis.

The volume will be provided with illustrations. It will be edited by Dr. W. H. WELCH, Professor of Pathology in the University, and Pathologist to the Hospital.

Volume II, for 1890. Beginning with January, 1890, the publication of the second volume of the Hospital Reports will be initiated by the publication of a fasciculus of about 64 pages. During the year, similar fasciculi will be issued, constituting in all a volume of about 500 pages. These fasciculi will contain medical, surgical and gynaecological papers and reports, details of cases, the technique of operations, etc. Subscriptions will be received for single fasciculi at the rate of 50 cents per fasciculus or for the entire volume at \$5 per year. In addition to surgical and gynaecological monographs, a portion of the contents of the second volume will be as follows: on hepatic fever, peritoneal tumors of tubercular origin, report of a case of Reynaud's disease, tubercular pericarditis, renal complications of typhoid fever, post-febrile insanity, acute tuberculosis in a suckling, the present status of our knowledge of malaria.

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